

Fossilium Catalogus

II: Plantae.

Editus a

W. Jongmans.

Pars 20:

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Anacardiaceae.



W. Junk
's-Gravenhage
1935.

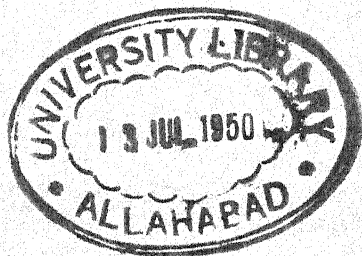


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Anacardiaceae.

Introduction.

The family Anacardiaceae at the present day consists of about 60 genera with some 500 species, mainly tropical and sub-tropical in distribution, but extending into warm temperate regions. Over 200 fossil species have been described, mostly leaf-impressions referred to *Rhus*, but very many of these are of little value as records of the genus or even of the family. In cataloguing them here no attempt has been made to examine them all critically, and the absence of comment does not imply acceptance of the identification.

Engler (1881) reviewed and tabulated 70 fossil species which had been referred to the family, but only regarded four of them as being undoubtedly anacardiaceous. These were *Pistacia oligocenica*, *P. narbonensis* (both very similar to *P. lentiscus* Linn.), *P. miocenica* and *P. phaeacum*. In this catalogue, the remark "identification doubtful" may be assumed to apply to all the other species of which the Synonymy contains a reference to Engler's work of 1881. Engler considered that nearly all the leaf-impressions might equally well belong to the Rutaceae, Sapindaceae, Burseraceae, or Leguminosae. Confusion has also arisen with the Juglandaceae, and numerous other cases of doubtful identification will be mentioned in the following catalogue.

The cuticular structure of the fossil leaves does not seem to have been studied so far in this family, but where the material is favourably preserved anatomical details may in some cases settle the family relationship.

A few petrified woods have been described as *Anacardiowylon* or *Rhoidium*, pollen has been described as *Rhoipites*, and a number of fruits have been recorded. Some of the latter, especially those preserved only as impressions, are however doubtful. (See particularly the remarks on *Trilobium*). In spite of considerable uncertainty in individual cases, it is nevertheless clear that the Anacardiaceae were well represented in fossil floras at least as far back as the Eocene. In their work on the well-preserved London Clay fruits, Reid & Chandler (1933) describe no fewer than eleven species all referable to the section Spondieae, belonging to six different genera, of which three are still living (*Dracontomelon*, *Spondias*, *Ocotea*). The three extinct genera (*Pseudosclerocarya*, *Spondicarya*, *Xylocarya*) combine characters which are now found in different living genera.

The general arrangement and the bibliographical references follow the style adopted for the Sapindaceae (Foss. Cat. pars 14, p. 3). Synonyms, nomina nuda, misidentifications, rejected names, and the like are enclosed in square brackets.

There are numerous cases in which a name given to a fossil had already been used for a recent plant, or the reverse. Several such homonyms have been dealt with by Knowlton & Cockerell, who have either transferred the fossil to another species (often to another

genus) or re-named it. In some cases the later name is a *nomen nudum*, and in others we do not consider it advisable to re-name fossil leaves which have not been re-examined, and have therefore merely drawn attention to these discrepancies. For details see the following in the catalogue:

Names of recent species pre-occupied by fossils: *Rhus ambigua*,
R. coriacea, *R. nitida*.

Names of fossils pre-occupied by recent species: *Pistacia acuminata*,
P. narbonensis, *Rhus acuminatus*, *R. affinis*, *R. angustifolia*,
R. elegans, *R. incisa*, *R. longifolia*, *R. microphylla*, *R. nervosa*,
R. obliqua, *R. obovata*, *R. quercifolia*, *R. rosaeifolia*, *R. salicifolia*, *R. triphylla*.

Names of fossils pre-occupied by other fossil species: *Rhus atavia*,
R. cretacea.

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Geological Department, July, 1934.

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Anacardiaceae ?

1915 **Anacardiaceae** ? (Fruits) Reid, C. & E. M., p. 109, pl. X, figs. 23—26.

Remarks: Drupaceous fruits, probably belonging to *Teschia crassicarpa* according to the authors.

Occurrence: Middle Pliocene; Holland (Reuver, Swalmen).

Anacardiaceae ? Genus ?

1933 **Anacardiaceae** ? Genus ? Reid & Chandler, p. 316, pl. XIV, figs. 21, 22.

Remarks: Fruit, doubtfully referred to the Anacardiaceae.

Occurrence: Eocene (London Clay); England (Herne Bay).

Anacardiaceae (Spondieae) Genus ?

1933 **Anacardiaceae (Spondieae)** Genus? Reid & Chandler, p. 313, pl. XIV, figs. 13—15.

Remarks: „The fruit belongs to the section Spondieae of the family Anacardiaceae“.

Occurrence: Eocene (London Clay); England (Sheppey).

[**Anacardiophyllum** Ettingshausen, 1870, p. 90.]

Synonym of **Anacardites** Saporta, q. v.

[**Anacardiophyllum parvifolium** Krasser.]

1903 **Anacardiophyllum parvifolium** Krasser, p. 858.

Remarks: MS. name of Ettingshausen. Nomen nudum.

Occurrence: Tertiary; Brazil (Ouricanga).

[**Anacardiophyllum rotundifolium** Krasser.]

1903 **Anacardiophyllum rotundifolium** Krasser, p. 858.

Remarks: MS. name of Ettingshausen. Nomen nudum.

Occurrence: Tertiary; Brazil (Ouricanga).

Anacardioxylon Felix, 1882, p. 70.

Anacardioxylon magniporosum Platen.

1908 **Anacardioxylon magniporosum** Platen, p. 57.

Occurrence: Tertiary; California.

[*Anacardioxylon mollii* Kräusel.]

Synonym of *Sumatroxylon mollii* (Kräusel), see Foss. Cat., pars 17, p. 76.

Anacardioxylon spondiaeforme Felix.

- 1882 *Anacardioxylon spondiaeforme* Felix, p. 70.
 1883 *Anacardioxylon spondiaeforme* Felix: Felix, p. 16, pl. II, figs. 7, 9.
 1890 *Anacardioxylon spondiaeforme* Felix: Kaiser, p. 25.
 1924 *Anacardioxylon spondiaeforme* Felix: Hollick, p. 265.
 Remarks: Similar to *Spondias lutea*. Originals in Munich.
 Occurrence: Tertiary; Antigua.

Anacardioxylon uniradiatum Felix.

- 1894 *Anacardioxylon uniradiatum* Felix, p. 92, pl. VIII, figs. 1 a—e.
 Remarks: Compared with *Spondias lutea*, but also with some Simarubaceae.
 Occurrence: Eocene (Sumgait series); Caucasus (Apscheron).

Anacardites Saporta, 1861, p. 149.[*Anacardites alnifolius* Saporta.]

- 1862a *Anacardites alnifolius* Saporta, p. 201, pl. II, fig. 1.
 1927 *Psidium alnifolium* (Sap.) Fritel, p. 409.
 Remarks: Transferred by Fritel to the Myrtaceous genus *Psidium*.
 Occurrence: Tertiary; S.E. France.

Anacardites americanus Berry.

- 1925 *Anacardites americanus* Berry, p. 104, pl. I, fig. 3.
 Occurrence: Tertiary (Forest Sand); Trinidad.

Anacardites amissus Heer.

- 1882 *Anacardites amissus* Heer, p. 99, pl. XL, fig. 8.
 1889 *Anacardites amissus* Heer: Velenovsky, p. 61.
 1913 *Anacardites amissus* Heer: Stopes, p. 55.
 Remarks: Compared by Heer with *Rhus quercifolia* Goepfert.
 Occurrence: Cretaceous (Atane Beds); Greenland.

Anacardites anaphrenium Saporta.

- 1865a *Anacardites anaphrenium* Saporta, p. 209, pl. XIII, fig. 7.
 1874 *Anacardites Anaphrenium* Sap.: Schimper, p. 281.
 1881 *Anacardites Anaphrenium* Sap.: Engler, p. 416.
 1930 *Anacardites anaphrenium* Sap.: Calmet, p. 189.
 Occurrence: Oligocene; S. France (Armissan).

Anacardites andegavensis Crié.

1885 **Anacardites andegavensis** Crié, p. 409.

Occurrence: Eocene; France, Maine-et-Loire (Cheffes).

Anacardites antiquus Lesquereux.

1892 **Anacardites antiquus** Lesquereux, p. 156, pl. LVII, fig. 1.

1913 **Anacardites antiquus** Lesq.: Stopes, p. 55.

Occurrence: Cretaceous; U.S.A. (Kansas).

Anacardites balli Berry.

1924b **Anacardites balli** Berry, p. 177, pl. LXII, fig. 7.

1931 **Anacardites balli** Berry: Ball, p. 160, pl. XXXII, fig. 9.

Occurrence: Upper Eocene; U.S.A. (Texas).

Anacardites bifurcus (Watelet).

1866 **Quercus bifurca** Watelet, p. 138, pl. XXXV, fig. 9.

1924 **Anacardites bifurcus** (Watelet) Fritel, p. 156.

Occurrence: Eocene; France (Paris Basin).

Anacardites braziliensis Hollick & Berry.

1924 **Anacardites braziliensis** Hollick & Berry, p. 76, pl. V, fig. 8.

Occurrence: Tertiary; Brazil.

[**Anacardites cenomanensis** Crié.]

See **Anacardites fyeensis** Crié.

Anacardites curta (Watelet).

1866 **Banksia curta** Watelet, p. 195, pl. LII, fig. 13.

1866 ?**Banksia lobata** Watelet, p. 196, pl. LII, fig. 14.

1883 **Anacardites curta** (Watelet) Friedrich, p. 148, pl. XIX, figs. 8—10.

1888 **Anacardites curta** (Wat.): Schenk, p. 539, fig. 309⁵.

Remarks: Watelet's two fragments are worthless and unidentifiable, and we cannot see the slightest reason either for identifying the Bornstedt leaves with them, or for including the latter in the Anacardiaceae.

Occurrence: Eocene; France (Belleu). Oligocene; Saxony (Bornstedt).

Anacardites dubius (Ettingshausen).

1870 **Anacardiophyllum dubium** Ettingshausen, p. 90.

1874 **Anacardites dubius** (Ett.) Schimper, p. 281.

1881 **Anacardites dubius** (Ett.): Engler, p. 416.

1888 **Anacardiophyllum dubium** Ett.: Ettingshausen, p. 356.

Occurrence: Miocene; Styria (Leoben).

Anacardites eocenicus Berry.

1930 **Anacardites eocenicus** Berry, p. 96, pl. XIV, fig. 18.

Occurrence: Lower Eocene (Wilcox); U.S.A., Tennessee (Hardeman Co.), Arkansas (Nevada Co.).

Anacardites falcatus Berry.

1916 **Anacardites falcatus** Berry, p. 261, pl. LIX, fig. 6.

Occurrence: Lower Eocene; U.S.A. (Tennessee).

Anacardites fyeensis Crié.

1878 **Anacardites fyeensis** Crié, p. 58, pl. O [XV], figs. 126—27.

Remarks: The name *A. cenomanensis* on the plate legend is evidently a misprint.

Occurrence: Eocene; W. France (Fye, Sarthe).

Anacardites grevilleaefolia Berry.

1916 **Anacardites grevilleaefolia** Berry, p. 262, pl. LVII, fig. 5; pl. LVIII, fig. 5.

1922c **Anacardites grevilleaefolia** Berry: Berry, p. 4.

1923 **Anacardites grevilleaefolia** Berry: Trowbridge, p. 92.

1931 **Anacardites grevilleaefolia** Berry: Ball, p. 84.

Occurrence: Lower Eocene; U.S.A. (Texas).

Anacardites inequilateralis Berry.

1930 **Anacardites inequilateralis** Berry, p. 96, pl. XXIX, fig. 7.

Occurrence: Lower Eocene; U.S.A., Tennessee (Fayette Co.).

Anacardites juglandoideus (Watelet).

1866 **Chrysophyllum juglandoideum** Watelet, p. 205, pl. LIV, fig. 1.

1924 **Anacardites juglandoideus** (Watelet) Fritel, p. 156, fig. 4.

Occurrence: Eocene; France (Paris Basin).

Anacardites lanceolatus Berry.

1923 **Anacardites lanceolatus** Berry, p. 10, pl. VI, figs. 1, 2.

Occurrence: Miocene; S. Mexico (Oaxaca).

Anacardites marshallensis Berry.

1916 **Anacardites marshallensis** Berry, p. 261, pl. LVIII, fig. 6.

Occurrence: Lower Eocene; U.S.A. (Mississippi).

Anacardites metopifolia Berry.

1916 **Anacardites metopifolia** Berry, p. 262, pl. LVIII, fig. 7.

Occurrence: Lower Eocene; U.S.A. (Mississippi, Kentucky, Tennessee).

Anacardites minor Berry.

- 1916 *Anacardites minor* Berry, p. 262, pl. LVII, fig. 4.
Occurrence: Lower Eocene; U.S.A. (Tennessee).

Anacardites patagonicus Berry.

- 1928 *Anacardites* (?) *patagonicus* Berry, p. 19, pl. V, fig. 1.
Occurrence: Tertiary; Argentine.

Anacardites puryearensis Berry.

- 1916 *Anacardites puryearensis* Berry, p. 261, pl. LVII, fig. 6.
1922a *Anacardites puryearensis* Berry: Berry, p. 2.
Occurrence: Lower Eocene; U.S.A. (Tennessee).

Anacardites schinoloxus Brown.

- 1929 *Anacardites schinoloxus* Brown, p. 288, pl. LXXIII, fig. 8.
Occurrence: Middle Eocene; U.S.A. (Colorado).

Anacardites schinus Brown.

- 1934 *Anacardites schinus* Brown, p. 60, pl. XV, fig. 19.
Occurrence: Eocene (Green River); U.S.A. (Colorado).

Anacardites serratus Berry.

- 1916 *Anacardites serratus* Berry, p. 263, pl. LVIII, fig. 8.
Occurrence: Lower Eocene; U.S.A. (Tennessee).

Anacardites spectabilis Saporta.

- 1861 *Anacardites spectabilis* Saporta, p. 149.
1862a *Anacardites spectabilis* Sap.: Saporta, p. 281, pl. XIII, fig. 5.
1873 *Anacardites spectabilis* Sap.: Saporta, p. 112.
1874 *Anacardites spectabilis* Sap.: Schimper, p. 281.
1881 *Anacardites spectabilis* Sap.: Engler, p. 416.
Occurrence: Oligocene; S. France (Aix-en-Provence).

Anacardites spondiaefolius Saporta.

- 1862a *Anacardites spondiaefolius* Saporta, p. 282.
1873 *Anacardites spondiaefolius* Sap.: Saporta, p. 112, pl. XVI, figs. 17, 18.
1874 *Anacardites spondiaefolius* Sap.: Schimper, p. 281.
1881 *Anacardites spondiaefolius* Sap.: Engler, p. 416.
1888 *Anacardites spondiaefolius* Sap.: Schenk, p. 539, fig. 309⁸.
Remarks: Compared by Saporta with *Spondias lutea*. Engler and Schenk both doubt the comparison.
Occurrence: Oligocene; S. France (Aix-en-Provence).

Anacardites spondiaeformis Berry.

- 1925 *Anacardites spondiaeformis* Berry, p. 105, pl. XV, fig. 4.
Occurrence: Tertiary (Forest Sand); Trinidad.

[*Anacardites tenuis* Saporta.]

Synonym of *Phyllites tenuis* Saporta, q. v.

Anacardites sp.

1931 *Anacardiophyllum* sp.: Kirchheimer, p. 116.

Remarks: Kirchheimer considers the reference to *Anacardiaceae* probable, and also includes under this name certain leaves said to have been named by Engelhardt *Rhus cassiiformis* Ett.

Occurrence: Tertiary; Germany (Lauterbach).

Anacardium Linnaeus.*Anacardium eocenicum* Berry.

1924 *Anacardium eocenicum* Berry, p. 261, pl. XVIII, figs. 1, 2.

Occurrence: Middle Eocene; Colombia (Bolívar).

Anacardium kirnii Berry.

1929 *Anacardium kirnii* Berry, p. 37, figs. 1, 2.

Occurrence: Lower Eocene; U.S.A., Texas (Atascosa Co.).

Anacardium peruvianum Berry.

1924a *Anacardium peruvianum* Berry, p. 124, figs. 1—8.

1927 *Anacardium peruvianum* Berry: Berry, p. 127, pl. XX, figs. 1—7.

1929 *Anacardium peruvianum* Berry: Berry, p. 38.

1929c *Anacardium peruvianum* Berry: Berry, p. 301, fig. 3.

1929d *Anacardium peruvianum* Berry: Berry, p. 159, pl. II, figs. 1—16.

Occurrence: Eocene; S. America (Peru, Ecuador, Colombia).

Anaphrenium E. Mey.*Anaphrenium europaeum* Engelhardt.

1922 *Anaphrenium europaeum* Engelhardt, p. 105, pl. XXXVII, fig. 5.

Occurrence: Eocene; Germany, Hessen (Messel, nr. Darmstadt).

Anaphrenium lanceolatum Engelhardt.

1922 *Anaphrenium lanceolatum* Engelhardt, p. 105, pl. XXXVII, fig. 6.

Occurrence: Eocene; Germany, Hessen (Messel, nr. Darmstadt).

Astronium Jacq.*Astronium oregonum* Chaney & Sanborn.

1933 *Astronium oregonum* Chaney & Sanborn, p. 80, pl. XXXI, figs. 2, 4.

Occurrence: Eocene; U.S.A. (Oregon).

Buchanania Spreng.

Buchanania sp.

1924 **Buchanania** n. sp.? Reid, p. 333, pl. X, fig. 25.

1924 **Buchanania** sp.? Reid, p. 334, pl. X, figs. 26, 27.

Remarks: Endocarps doubtfully referred to this genus.

Occurrence: Lower Pliocene; France, Cantal (Pont-de-Gail).

Carpolithus Linnaeus.

Carpolithus anacardiaceus Engelhardt.

1922 **Carpolithes anacardiaceus** Engelhardt, p. 120, pl. XL, fig. 28.

Remarks: A dubious reference to the family Anacardiaceae.

Occurrence: Eocene; Germany, Hessen (Messel, nr. Darmstadt).

Carpolithus hafniensis Hartz.

1909 **Carpolithes hafniensis** Hartz, pp. 122, 278, pl. V, figs. 6a—c.

Remarks: Reid & Chandler (1933, p. 299) suggest a relationship with *Sclerocarya*, unless the fruit is indeed one-loculed.

Occurrence: Tertiary (Amber-pine beds); Denmark.

Carpolithus terebinthinoides Menzel.

1913 **Carpolithes terebinthinoides** Menzel, p. 71, pl. VI, fig. 11.

Remarks: Fruit compared with that of *Pistacia terebinthus*.

Occurrence: Pliocene (?); Germany (Herzogenrath, nr. Aachen).

Carpolithus sp.

1930 **Carpolithus** sp. 3: Reid, E. M., p. 58, pl. III, figs. 1—3.

Remarks: Very doubtfully compared with *Buchanania* from Pont-de-Gail (q. v.).

Occurrence: Eocene; France (Finistère, St. Tudy).

Colombicarpum Reid, 1933, p. 212.

Colombicarpum biloculare Reid.

1933 **Colombicarpum biloculare** Reid, p. 212, pl. XIV, figs. 10—13.

Remarks: Endocarps belonging to the Anacardiaceae, and perhaps nearest to *Tapirira*.

Occurrence: Tertiary; S. America (Colombia).

Comocladia P. Br.

[**Comocladia coelebogynoides** Massalongo.]

1859 **Comocladia coelebogynoides** Massalongo, p. 104.

1893 **Comocladia coelebogynoides** Meschinelli & Squinabol, p. 347.

Remarks: Nomen nudum.

Occurrence: Oligocene; Italy (Chiavon).

Cotinus Linnaeus.

(See also *Rhus antilopum*, *R. orbiculata*, *R. palaeocotinus*, and *R. palaeophylla*.)

Cotinus coggygria Scop.

- 1803 *Rhus* (cf. *R. cotinus*): Faujas-St.-Fond, p. 344, pl. LVI, fig. 2.
 1845 *Rhus* sp. Faujas: Unger, p. 242.
 1850 *Rhus* sp. Faujas: Unger, p. 475.
 1864 *Rhus cotinus* Linn.: Saporta, p. 498.
 1867a *Rhus cotinus* Linn.: Saporta, p. 280.
 1906 *Cotinus coggygria* Scop.: Pax, p. 301.
 1911 *Rhus cotinus* Linn.: Krasnov, p. 251, 1 fig.
 1928 *Cotinus coggygria* Scop.: Nemejc, p. 199, pl. fig. 1.
 1929 *Cotinus coggygria* Scop.: Stojanoff & Stefanoff, p. 79, pl. XI, fig. 11; text-fig. 21, figs. 3, 4.
 Occurrence: Tertiary and Quaternary; Bulgaria, Slovakia, France (Provence, Ardèche), Russia (Piattegor'sk).

Cotinus cretacea Hollick.

- 1930 *Cotinus cretacea* Hollick, p. 98, pl. LXXV, fig. 4.
 Occurrence: Upper Cretaceous; U.S.A., Alaska (Yukon River).

Cotinus fraterna (Lesquereux).

- 1883 *Rhus fraterna* Lesquereux, p. 192, pl. XLI, figs. 1, 2.
 1883 *Andromeda rhomboidalis* Lesquereux, p. 176.
 1906 *Cotinus fraterna* (Lesq.): Cockerell, p. 12.
 1908 *Cotinus fraterna* (Lesq.): Cockerell, p. 99.
 1908 *Andromeda scudderiana* Cockerell, p. 105.
 1916 *Cotinus fraterna* (Lesq.): Knowlton, p. 279, pl. XXIV, fig. 1.
 1919 *Cotinus fraterna* (Lesq.): Knowlton, p. 198.
 Occurrence: Miocene; U.S.A., Colorado (Florissant).

Cupanites Schimper.

Schenk (1888, p. 548) remarks on the resemblance to *Anacardiaceae* of some of the leaves referred to this genus. See Foss. Cat. pars 14, p. 24.

Dracontomelon Blume.**Dracontomelon subglobosum** Reid & Chandler.

- 1933 *Dracontomelon subglobosum* Reid & Chandler, p. 299, pl. XIII, figs. 10—19; text-fig. 6.
 Remarks: Fruit.
 Occurrence: Eocene (London Clay); England (Sheppey).

Dracontomelon minimum Reid & Chandler.

- 1933 *Dracontomelon minimum* Reid & Chandler, p. 302, pl. XIII, figs. 20—24.
 Remarks: Fruit.
 Occurrence: Eocene (London Clay); England (Sheppey).

[Heterocalyx Saporta, 1873.]

Synonym of **Trilobium** Saporta, q. v.

[Heterocalyx saportana Berry.]

1916 **Heterocalyx saportana** Berry, p. 260, pl. LIX, fig. 1.

1930 **Heterocalyx saportana** Berry: Berry, p. 96, pl. XIV, figs. 13—16.

Remarks: Small calyces or fruits which do not appear to have anything to do with Saporta's *Heterocalyx* (= *Trilobium*) *ungeri*; and which there is no strong reason for referring to the Anacardiaceae.

Occurrence: Lower Eocene; U.S.A. (Mississippi, Tennessee).

[Heterocalyx ungeri Saporta.]

See **Trilobium ungeri** Saporta.

[Leguminosites Bowerbank.]**[Leguminosites copelandi Heer.]**

1883 **Leguminosites Copelandi** Heer, p. 139, pl. XCII, fig. 13.

Remarks: Compared with *Cassia phaseolites* and *Rhus* as well as Leguminosae.

Occurrence: Tertiary; Greenland.

Lobaticarpum Reid & Chandler, 1933, p. 314.**Lobaticarpum variabile** Reid & Chandler.

1933 **Lobaticarpum variabile** Reid & Chandler, p. 314, pl. XIV, figs. 16—20; text-fig. 7.

Remarks: Fruits doubtfully referred to Anacardiaceae.

Occurrence: Eocene (London Clay); England (Sheppey).

Mangifera Linnaeus.**[Mangifera cf. indica Linnaeus.]**

1932 **Mangifera** cf. *indica* Linn.: Hofmann, p. 70.

Remarks: Record without figure or description.

Occurrence: Eocene; Germany (Geiseltal).

Mangifera tertiaria Engelhardt.

1922 **Mangifera tertiaria** Engelhardt, p. 106, pl. XXXVI, fig. 5.

Occurrence: Eocene; Germany, Hessen (Messel, nr. Darmstadt).

Metopium P. Br.**Metopium wilcoxianum** Berry.

- 1916 **Metopium wilcoxianum** Berry, p. 260, pl. LVII, figs. 2, 3;
CXI, fig. 5.
1931 **Metopium wilcoxianum** Berry: Ball, p. 89.
Occurrence: Lower Eocene; U.S.A. (Mississippi, Tennessee,
Texas).

[**Metopium yeguanum** „Berry“.]

- 1931 **Metopium yeguanum** „Berry“: Ball, pp. 124, 160, p. XXI, fig. 1.
Remarks: Nomen nudum. No diagnosis nor description.
Occurrence: Eocene; U.S.A. (Texas).

Odina Roxb.**Odina europaea** Reid & Chandler.

- 1933 **Odina europaea** Reid & Chandler, p. 309, pl. XIV, figs. 1—4.
Remarks: Endocarp.
Occurrence: Eocene (London Clay); England (Sheppey).

Odina jenkinsi Reid & Chandler.

- 1933 **Odina jenkinsi** Reid & Chandler, p. 308, pl. XIII, figs. 37—40.
Remarks: Endocarp.
Occurrence: Eocene (London Clay); England (Sheppey, Herne
Bay).

Odina (?) **subreniformis** Reid & Chandler.

- 1933 **Odina** (?) **subreniformis** Reid & Chandler, p. 310, pl. XIV, figs.
5—8.
Remarks: Endocarp.
Occurrence: Eocene (London Clay); England (Sheppey).

Phyllites Brongniart.[**Phyllites cotinus** Lesquereux.]

- 1876 **Phyllites cotinus** Lesquereux, p. 364.
Remarks: Synonym of *Liriodendron marcouanum* (Heer)
Knowlton (1919, p. 360), which was compared by Lesquereux with
Rhus.

Phyllites dichotomus Laurent.

- 1899 **Phyllites dichotomus** Laurent, p. 145, pl. XIV, fig. 30.
Remarks: Doubtfully referred to the genus *Rhus*.
Occurrence: Oligocene; France (Célas).

Phyllites lobulata Bunbury.1858 **Phyllites lobulata** Bunbury, p. 56.Remarks: A doubtful reference to *Anacardiaceae*.

Occurrence: Tertiary; Madeira.

Phyllites rhoifolius Lesquereux.1868 **Phyllites rhoifolius** Lesquereux, p. 101.1874a **Phyllites rhoifolius** Lesq.: Lesquereux, p. 111, pl. XXII, figs. 5, 6.1883 **Phyllites rhoifolius** Lesq.: Lesquereux, p. 86.Remarks: Nervation compared with *Rhus* spp. Two fragments of leaves only.

Occurrence: Cretaceous; U.S.A. (Nebraska).

Phyllites tenuis Saporta.1862 **Phyllites tenuis** Saporta, p. 202.1865 **Anacardites? tenuis** (Sap.) Saporta, p. 42.1927 **Phyllites tenuis** Sap.: Fritel, p. 409.

Occurrence: Eocene; S.E. France.

Phyllites (Rhus?) Ziegleri Heer.1855 **Phyllites (Rhus?) Ziegleri** Heer, p. 33, pl. II, figs. 29—32.

Occurrence: Tertiary; Madeira (St. Jorge).

Phyllites sp.1883 **Phyllites** sp.: Nathorst, p. 81, pl. XVI, fig. 10.Remarks: A doubtful fragment very doubtfully compared with *Rhus semialata*.

Occurrence: Tertiary; Japan (Takasima).

Phyllites sp.1888 **Phyllites** sp.: Nathorst, p. 219, pl. XIX, fig. 6.Remarks: Doubtfully referred to *Rhus*.

Occurrence: Miocene; Japan (Iyo, Sikoku).

Phyllites sp.1928 **Phyllites** sp. (cf. *Schinopsis*) Berry, p. 25, pl. III, figs. 10—12.Remarks: Compared with *Schinopsis*, but a relationship with Sapindaceae is also suggested.

Occurrence: Tertiary; Argentina.

Pistacia L.**Pistacia acuminata** Reid, C. & E. M.[Non *P. acuminata* Boiss. & Buhse, 1860, Nouv. Mém. Soc. Nat.Mosc., XII, p. 53 (= *P. khinguk*)]

- 1915 *Pistacia acuminata* Reid, C. & E. M., p. 108, pl. X, figs. 19, 20.
Occurrence: Middle Pliocene; Holland (Reuver, Swalmen).

***Pistacia aquehongensis* Hollick.**

- 1898 *Pistacia aquehongensis* Hollick, p. 421, pl. XXXVI, fig. 5.
1906 *Pistacia aquehongensis* Hollick: Hollick, p. 87, pl. XXXIII, fig. 3.
Occurrence: Cretaceous; U.S.A. (Staten Island, Tottenville).

[*Pistacia aquensis* Saporta.]

Synonym of *P. myrtifolia* (Saporta), q. v.

***Pistacia bohémica* Ettingshausen.**

- 1869 *Pistacia bohémica* Ettingshausen, p. 49, pl. I, fig. 25.
1874 *Pistacia bohémica* Ett.: Schimper, p. 268.
1881 *Pistacia bohémica* Ett.: Engler, p. 418.
1910 *Pistacia bohémica* Ett.: Brabenec, p. 238, text-fig. 150 e.
Occurrence: Oligocene; Bohemia (Bilin Basin).

[*Pistacia britannica* Ettingshausen.]

- 1880 *Pistacia britannica* „Ett. & Gardner“: Ettingshausen, p. 235.
Remarks: *Nomen nudum*.
Occurrence: Eocene; England (Alum Bay).

***Pistacia eriensis* Knowlton.**

- 1919 *Pistacia eriensis* Knowlton, p. 460 (*nomen nudum*).
1922 *Pistacia eriensis* Knowlton, p. 150, pl. XXVIII, figs. 1—4.
Occurrence: Cretaceous; U.S.A. (Colorado, Denver Basin).

***Pistacia fontanesia* (Unger).**

- 1850 *Elaioides fontanesia* Unger, p. 125, pl. XIV, fig. 12.
1850a *Elaioides fontanesia* Unger: Unger, p. 432.
1855 *Pistacia Fontanesia* (Unger) Andrae, p. 25, pl. II, fig. 14.
1874 *Pistacia Fontanesia* (Unger): Schimper, p. 268.
1881 *Pistacia Fontanesia* (Unger): Engler, p. 416.
Occurrence: Tertiary; Galicia and Transylvania.

***Pistacia gervaisi* (Saporta).**

- 1855 ?*Artemisia* sp.: Wessel & Weber, p. 165, pl. XXX, fig. 3.
1860 ?*Carpinus salzhausensis* Ludwig, p. 100, pl. XXXIII, fig. 8.
1863 ?*Smilax* or *Dianella*: Gervais, p. 316, pl. XI, fig. 1.
1865a *Carpolithes gervaisi* Saporta, p. 239, pl. XI, fig. 11.
1869a *Carpolithes gervaisi* Sap.: Heer, p. 50, pl. XII, fig. 9.
1874 *Pistacia Gervaisii* (Sap.) Schimper, p. 269.
1881 *Pistacia Gervaisii* (Sap.): Engler, p. 416.
1887 *Carpolithes gervaisii* Sap.: Boulay, p. 274.
1888 *Rhus atavia* Saporta (non Schenk), p. 300, fig. 41.
1888 *Pistacia Gervaisii* (Sap.): Schenk, p. 539, fig. 309⁷.
1889 *Rhus gervaisii* (Sap.) Schenk, p. 838.
1926 *Pistacia gervaisii* (Sap.): Wilckens, p. 38.

Remarks: The Armissan fruit first described by Gervais was referred to *Pistacia* by Saporta (in Schimper, 1874). Engler thought further proof was required. Marion apparently considered it to be a *Rhus*, allied to the living *R. sylvestris* Sieb. & Zucc. and *R. succedanea* L. of Japan, and Saporta, while accepting this (1888) incorrectly re-named the plant *R. atavia*. Schenk (1889) corrected the name to *R. gervaisii*, but considered that a reference to *Pistacia* was not entirely excluded.

Heer (1869a) included in this species fruits described by Wessel & Weber as *Artemisia* and by Ludwig as *Carpinus*.

Occurrence: Upper Oligocene; S. France (Armissan). Lower Miocene; Rhineland (Rött), Samland.

Pistacia hollicki Knowlton.

1919 *Pistacia hollicki* Knowlton, p. 460 (nomen nudum).

1922 *Pistacia hollicki* Knowlton, p. 151, pl. XXVIII, figs. 5, 6.

Occurrence: Cretaceous; U.S.A. (Colorado, Denver Basin).

Pistacia lentiscoides Unger.

1850 *Pistacia lentiscoides* Unger, p. 473.

1860 *Pistacia lentiscoides* Unger: Unger, p. 46, pl. XXI, fig. 14.

1861 *Pistacia lentiscoides* Unger: Ettingshausen, p. 260.

1874 *Pistacia lentiscoides* Unger: Schimper, p. 267.

1881 *Pistacia lentiscoides* Unger: Engler, p. 416.

Remarks: Schimper considers that this leaflet resembles *Rhus xanthoxyloides*.

Occurrence: Miocene; Styria (Parschlug).

Pistacia lentiscus Linnaeus.

1858 *Pistacia lentiscus* Linn.: Heer, p. 783, pl. LI, figs. 1, 2.

1859 *Pistacia lentiscus* Linn.: Tornabene, p. 48, pl. II, figs. A, A¹.

1896 *Pistacia lentiscus* Linn.: Lacroix, p. 657.

Remarks: See also *P. myrtifolia*, *P. narbonensis* and *P. oligocenica*, which are considered to be very close to *P. lentiscus*, and perhaps identical.

Occurrence: Pleistocene; Greece (Santorin); Italy (Etna).

Pistacia mettenii Unger.

1860 *Pistacia mettenii* Unger, p. 46, pl. XXI, fig. 15.

1861 *Pistacia Mettenii* Unger: Ettingshausen, p. 260.

1868 *Pistacia mettenii* Unger: Ettingshausen, p. 884.

1874 *Pistacia mettenii* Unger: Schimper, p. 269.

1881 *Pistacia Mettenii* Unger: Engler, p. 416.

Remarks: Schimper thinks these fruits resemble those of *Sapindus* or *Koelreuteria*.

Occurrence: Oligocene; Germany (Hessen, Wetterau, Salzhäusen).

Pistacia miocenica Saporta.

1861 *Pistacia miocenica* Saporta, p. 168.

1868a *Pistacia miocenica* Sap.: Saporta, p. 52, pl. VI, figs. 4—6.

- 1874 *Pistacia miocenica* Sap.: Schimper, p. 268.
 1881 *Pistacia miocenica* Sap.: Engler, p. 416.
 1888 *Pistacia miocenica* Sap.: Schenk, p. 544, fig. 310^o.
 1899 *Pistacia miocenica* Sap.: Schenk, p. 838.
 [1911 *Pistacia miocenica* „Ünger“?: Krasnov, p. 723.]
 Occurrence: [Eocene; Russia]; Miocene; Marseille.

Pistacia myrtifolia (Saporta).

- 1861 *Grevillea myrtifolia* Saporta, p. 145.
 1862a *Grevillea myrtifolia* Saporta, p. 250, pl. VIII, fig. 11.
 1862a *Andromeda arcinervis* Saporta, p. 266, pl. XI, fig. 7.
 1873 *Pistacia (Lentiscus) aquensis* Saporta, p. 105, pl. XV, figs. 1—24.
 1874 *Pistacia (Lentiscus) aquensis* Sap.: Schimper, p. 703.
 1893 *Pistacia aquensis* Sap.: Saporta, p. XIV.
 Remarks: This species is stated to be, like *P. oligocenica* Marion, practically indistinguishable from the living *P. lentiscus*.
 Occurrence: Oligocene; France (Aix-en-Provence).

Pistacia narbonensis Marion.

[Non *P. narbonensis* Linn., 1753, Sp. Pl., p. 1025]

- 1865a *Rhus affinis* Saporta (non Wall.), p. 207.
 1872 *Pistacia (Lentiscus) narbonensis* Marion, p. 356, pl. XXIII, fig. Ø
 1874 *Pistacia narbonensis* Marion: Schimper, p. 267.
 1877 *Pistacia (Lentiscus) narbonensis* Marion: Marion, p. 82, pl. II, fig. Ø
 1881 *Pistacia narbonensis* Marion: Engler, p. 416.
 1888 *Pistacia narbonensis* Marion: Schenk, p. 539, fig. 309^o.
 1890 *Pistacia narbonensis* Marion: Schenk, p. 838.
 1930 *Rhus affinis* Sap.: Calmet, p. 188.
 Remarks: Engler agrees with Marion that this „species“ is indistinguishable from the living *P. lentiscus*.
 Occurrence: Oligocene; France (Armissan).

[*Pistacia oblanceolata* (Lesquereux).]

- 1873 *Ficus oblanceolata* Lesquereux, p. 387.
 1878 *Ficus oblanceolata* Lesq.: Lesquereux, p. 194, pl. XXVIII, figs. 9—12.
 1898a *Pistacia oblanceolata* (Lesq.) Knowlton, p. 167.
 1919 *Ficus oblanceolata* Lesq.: Knowlton, p. 283.
 Occurrence: Tertiary; U.S.A. (Wyoming, Black Buttes).

Pistacia oligocenica Marion.

- 1872 *Pistacia (Lentiscus) oligocenica* Marion, p. 353, pl. XXIII, figs. 30—36.
 1874 *Pistacia oligocenica* Marion: Schimper, p. 267.
 1877 *Pistacia (Lentiscus) oligocenica* Marion: Marion, p. 79, pl. II, fig. 30—36.
 1881 *Pistacia oligocenica* Marion: Engler, p. 416.
 1888 *Pistacia oligocenica* Marion: Schenk, p. 539, fig. 309^o.
 1890 *Pistacia oligocenica* Marion: Schenk, p. 838.
 1893 *Pistacia lentiscus oligocenica* Marion: Saporta, p. XV.

1902 *Pistacia lentiscus* var. *oligocenicum* Marion: Laurent, p. 199, pl. II, figs. 24—27.

1910 *Pistacia (Lentiscus) oligocenica* Marion: Lauby, p. 372.

Remarks: Engler agrees with Marion that this „species“ is indistinguishable from the living *P. lentiscus*.

Occurrence: Oligocene; France (Ronzon).

Pistacia palaeo-lentiscus Ettingshausen.

1877 *Pistacia palaeo-lentiscus* Ettingshausen, p. 199, pl. XVIII, figs. 20—22.

1881 *Pistacia palaeo-lentiscus* Ett.: Engler, p. 416.

1888 *Pistacia palaeo-lentiscus* Ett.: Ettingshausen, p. 354, pl. IX, fig. 26.

Occurrence: Miocene; Styria.

Pistacia phaeacum Heer.

1855 *Pistacia phaeacum* Heer, p. 32, pl. II, fig. 25

1874 *Pistacia Phaeacum* Heer: Schimper, p. 268.

1881 *Pistacia Phaeacum* Heer: Engler, p. 416.

Remarks: Compared with the living *P. atlantica*, and accepted as a *Pistacia* by Engler.

Occurrence: Quaternary; Madeira.

Pistacia reddita (Saporta).

1861 *Rhus redditum* Saporta, p. 148.

1862b *Rhus reddita* Sap.: Saporta, p. 277, pl. XIII, fig. 2.

1873 *Pistacia reddita* (Saporta) Saporta, p. 103, pl. XV, figs. 25-35.

1874 *Rhus reddita* Sap.: Schimper, p. 270.

1874 *Pistacia reddita* (Sap.): Schimper, p. 702.

1881 *Rhus reddita* Sap.: Engler, p. 414.

1886 *Pistacia reddita* (Sap.): Saporta, p. 192.

1888 *Rhus reddita* Sap.: Schenk, p. 544, fig. 310³.

1890 *Pistacia reddita* (Sap.): Schenk, p. 838.

1893 *Pistacia reddita* (Sap.): Saporta, p. XIV.

Occurrence: Oligocene; France (Aix-en-Provence).

Pistacia sicula Tornabene.

1859 *Pistacia sicula* Tornabene, p. 54, pl. IV, fig. A.

Occurrence: Pleistocene; Italy (Etna).

Pistacia terebinthus Linn.

1859 *Pistacia terebinthus* Linn.: Tornabene, pp. 28, 43, pls. I, fig. A; VII, fig. A.

Remarks: Tornabene also distinguishes the variety *ovalifolia*.

Occurrence: Pleistocene; Italy (Etna).

Pistacia sp.

1911 *Pistacia* sp.: Kafka, p. 42.

Occurrence: Oligocene; Bohemia (Preschen).

Pseudosclerocarya Reid & Chandler, 1933, p. 303.**Pseudosclerocarya lentiformis** Reid & Chandler.

1933 **Pseudosclerocarya lentiformis** Reid & Chandler, p. 303, pl. XIII, figs. 25—28.

Remarks: Endocarp, referable to the Spondieae.

Occurrence: Eocene (London Clay); England (Sheppey).

Pseudosclerocarya subalata Reid & Chandler.

1933 **Pseudosclerocarya subalata** Reid & Chandler, p. 304, pl. XIII, figs. 29—31.

Remarks: Endocarp.

Occurrence: Eocene (London Clay); England (Sheppey).

Pseudospondias Engler.**Pseudospondias microcarpa** Engler.

1920 **Pseudospondias microcarpa** Engler: Menzel, p. 27.

Occurrence: ? Pleistocene; Kameroun.

Rhodium Unger.**Rhodium juglandinum** Unger.

1850 **Rhodium juglandinum** Unger, p. 475.

1889 **Rhodium juglandinum** Unger: Staub, p. 190.

1890 **Rhodium juglandinum** Unger: Kaiser, p. 26.

Occurrence: Tertiary; Hungary (Antal, nr. Schemnitz).

Rhodium philippinense Crié.

1889 **Rhodium philippinense** Crié, p. 86, pl. IX (XVII), figs. 3, 4.

Occurrence: Tertiary; Philippines (Luzon, Manila, S. Juan del Monte).

Rhodium ungeri Mercklin.

1855 **Rhodium ungeri** Mercklin, p. 21, pl. I, fig. 1; II, figs. 1—10.

1865 **Rhodium ungeri** Mercklin: Eichwald, p. 65.

1890 **Rhodium ungeri** Mercklin: Kaiser, p. 26.

1913 **Rhodium ungeri** Mercklin: Stöpes, p. 198.

Remarks: Compared with *Rhus juglandifolia*.

Occurrence: ? Cretaceous; Russia (Durasovka in Saratov).

Rhoipites Wodehouse, 1933, p. 513.**Rhoipites bradleyi** Wodehouse.

1933 **Rhoipites bradleyi** Wodehouse, p. 513.

Remarks: Pollen.

Occurrence: Eocene (Green River); U.S.A. (Colorado).

Rhoophyllum Dusen.**Rhoophyllum nordenskjoldi** Dusen.

1907 **Rhoophyllum nordenskjoldi** Dusen, p. 103, pl. XI, fig. 1.

1932 **Rhoophyllum nordenskjoldi** Dusen: Berry, p. 10.

Occurrence: Tertiary; Magellansland, Patagonia.

Rhoophyllum serratum Dusen.

1907 **Rhoophyllum serratum** Dusen, p. 103, pl. XI, figs. 3, 4.

Occurrence: Tertiary; Magellansland.

Rhus Linnaeus.**Rhus abbreviata** Saporta.

1873 **Rhus abbreviata** Saporta, p. 110, pl. XV, fig. 41.

1874 **Rhus abbreviata** Saporta: Schimper, p. 704.

Occurrence: Oligocene; France (Aix-en-Provence).

[Rhus acuminata Lesq. (non De Candolle)].

1872 **Rhus acuminata** Lesquereux, p. 8.

1883 **Rhus acuminata** Lesq.: Lesquereux, p. 194, pl. XLII, figs. 14—17.

Remarks: Referred to *Weinmannia lesquereuxi* by Cockerell (1908, p. 93).

Occurrence: Eocene; U.S.A. (Wyoming). Miocene; U.S.A. (Colorado, Florissant).

Rhus adscripta Saporta.

1873 **Rhus adscripta** Saporta, p. 108, pl. XVI, fig. 6.

1874 **Rhus adscripta** Sap.: Schimper, p. 703.

Occurrence: Oligocene; France (Aix-en-Provence).

[Rhus aegopodiifolia Goeppert]

Synonym of **R. quercifolia** Goeppert, q. v.

[Rhus affinis Saporta (non Wall.)]

Synonym of **Pistacia narbonensis** Marion, q. v.

Rhus ailanthifolia Weber.

1851 **Rhus ailanthifolia** Weber, p. 403 (nomen).

1852 **Rhus ailanthifolia** Weber, p. 213, pl. XXIII, fig. 15.

1861 **Rhus ailanthifolia** Weber: Ettingshausen, p. 261.

1926 **Rhus ailanthifolia** Weber: Wilckens, p. 38.

Occurrence: Miocene; Rhineland (Rott.).

[*Rhus ambigua* Unger.][Non *R. ambigua* Lavallée, 1877, Arb. Segrez, p. 54 (nomen)]1849 *Rhus ambigua* Unger, p. 352, pl. V, fig. 9.1850 *Rhus ambigua* Unger: Unger, p. 475.1851 *Rhus ?ambigua* Unger: Stizenberger, p. 86.Remarks: Transferred to *Zanthoxylon* by Massalongo (1858, p. 65; 1859, p. 104) and later authors (e. g. Heer, 1859, p. 277).

Wrongly stated by Unger to be from Oeningen.

Occurrence: Eocene; Italy (Monte Bolca).

Rhus anceps Heer.1859 *Rhus anceps* Heer, p. 85, pl. CXXVII, fig. 7.1861 *Rhus anceps* Heer: Ettingshausen, p. 262.1874 *Rhus anceps* Heer: Schimper, p. 272.1881 *Rhus anceps* Heer: Engler, p. 414.Remarks: Probably not *Rhus*, according to Engler.

Occurrence: Miocene; Baden (Oeningen).

[*Rhus angustifolia* (Ludwig) Engler (non Linn.)]Synonym of *R. munzenbergensis* Ett., q. v.*Rhus antilopum* Unger.1867 *Rhus antilopum* Unger, p. 79, pl. XIV, fig. 16.1874 *Rhus antilopum* Unger: Schimper, p. 276.1881 *Rhus antilopum* Unger: Engler, p. 415.1888 *Rhus antilopum* Unger: Schenk, p. 541.1890 *Rhus antilopum* Unger: Schenk, p. 838.Remarks: Compared with *Cotinus* by Schenk.

Occurrence: Miocene; Greece (Kumi, Euboea).

Rhus antiqua Bozzi.1892 (Jan.) *Rhus cretacea* Bozzi (non Heer) in Tommasi, p. 1119 (nomen nudum).1892 *Rhus antiqua* Bozzi, p. 377, pl. XVI, fig. 4.1913 *Rhus antiqua* Bozzi: Stopes, p. 199.

Occurrence: Cretaceous; Italy (Vernasso).

Rhus appendiculata Ettingshausen.1870 *Rhus appendiculata* Ettingshausen, p. 90, pl. VI, fig. 7.1874 *Rhus appendiculata* Ett.: Schimper, p. 278.1881 *Rhus appendiculata* Ett.: Engler, p. 415.1888 *Rhus appendiculata* Ett.: Ettingshausen, p. 355.1911 *Rhus appendiculata* Ett.: Engelhardt, p. 390, pl. XLII, fig. 29.

Occurrence: Oligocene; Germany (Flörsheim). Miocene; Styria (Leoben).

Rhus arctica Heer.1869 *Rhus arctica* Heer, p. 482, pl. XL, fig. 5 ee.1874 *Rhus arctica* Heer: Schimper, p. 280.

- 1881 *Rhus arctica* Heer: Engler, p. 415.
 1883a *Rhus arctica* Heer: Heer, p. 135.
 1888 *Rhus arctica* Heer: Schenk, p. 543.
 Occurrence: Tertiary; W. Greenland.

***Rhus atavia* Schenk.**

- 1883 *Rhus atavia* Schenk, p. 268, pl. I, figs. 9, 10.
 1888 *Rhus atavia* Schenk: Schenk, p. 543.
 1889 *Rhus atavia* Schenk: Schenk, p. 838.
 Occurrence: Tertiary; China.

[*Rhus atavia* Saporta, (non Schenk)].

Synonym of *Pistacia gervaisi* (Saporta), q. v.

[*Rhus atlantis* „Ett. & Gard.“]

- 1880 *Rhus atlantis* „Ett. & Gard.“: Ettingshausen, p. 235.
 Remarks: Nomen nudum.
 Occurrence: Eocene; England (Alum Bay).

***Rhus balli* Brown.**

- 1929 *Rhus balli* Brown, p. 287, pl. LXXIII, fig. 10.
 Remarks: Brown discusses at length the possible relationships of various leaves which have been referred to *Rhus* and *Weinmannia*.
 Occurrence: Eocene; U.S.A. (Colorado).

[*Rhus banksiaefolia* Massalongo.]

- 1859 *Rhus banksiaefolia* Massalongo, p. 104.
 1893 *Rhus banksiaefolia* Mass.: Meschinelli & Squinabol, p. 347.
 Remarks: Nomen nudum.
 Occurrence: Oligocene; Italy (Chiavon, Salcedo).

***Rhus bella* Heer.**

- 1869 *Rhus bella* Heer, p. 482, pl. LVI, figs. 3—5.
 1873 *Rhus bella* (?) Heer: Lesquereux, p. 407.
 1874 *Rhus bella* Heer: Schimper, p. 280.
 1880 *Rhus bella* Heer: Heer, p. 16, pl. VI, fig. 1.
 1881 *Rhus bella* Heer: Engler, p. 415.
 1883a *Rhus bella* Heer: Heer, p. 134, pl. LXVIII, fig. 3.
 1887 *Rhus bella*? Heer: Lesquereux, p. 44.
 1888 *Rhus bella* Heer: Schenk, p. 543.
 Occurrence: Tertiary; W. Greenland, U.S.A. (Montana, nr. Fort Ellis).

***Rhus bendirei* Lesquereux.**

- 1888 *Rhus bendirei* Lesquereux, p. 15, pl. IX, fig. 2.
 1902 *Rhus bendirei* Lesq.: Knowlton, p. 70.
 1920 *Rhus bendirei* Lesq. (?) Chaney, p. 178.
 Remarks: One of the leaves described by Lesquereux on p. 15 has been referred to *Juglans oregoniana* Lesq. by Knowlton (1902).
 Occurrence: Oligocene and Miocene; U.S.A. (Oregon).

Rhus bidens Heer.

1874a **Rhus bidens** Heer, p. 17, pl. I, fig. 6.

1881 **Rhus bidens** Heer: Heer, p. 21.

1883 **Quercus bidens** (Heer) Ettingshausen, p. 397.

1925 **Rhus bidens** Heer: Kräusel, p. 337.

1931 **Quercus bidens** (Heer). Posthumus, p. 491.

Remarks: A leaf species variously referred to *Rhus* or *Quercus*. Schenk (1888, p. 543) also compares it with *Castanopsis*.

Occurrence: Tertiary; Sumatra.

Rhus bidentata Pilar.

1883 **Rhus bidentata** Pilar, p. 113, pl. XIII, fig. 9.

Occurrence: Miocene; Croatia (Dolje).

Rhus blitum Saporta.

1862a **Rhus blitum** Saporta, p. 279, pl. XIII, fig. 4.

1873 **Rhus „oblita“** Sap.: Saporta, p. 109.

1874 **Rhus Blitum** Sap.: Schimper, p. 276.

1881 **Rhus Blitum** Sap.: Engler, p. 415.

Occurrence: Oligocene; France (Aix-en-Provence).

Rhus boweniana Lesquereux.

1878 **Rhus boweniana** Lesquereux, p. 29, pl. IX, figs. 8, 9.

1896 **Rhus boweniana** Lesq.: Knowlton, in Lindgren, p. 890.

1911a **Rhus boweniana** Lesq.: Knowlton, pp. 59, 62.

Occurrence: Miocene (Auriferous Gravels); U.S.A. (California).

Rhus brunneri Fischer-Ooster.

1856 **Rhus Brunneri** F.-O.: Gaudin & La Harpe, pp. 365, 428, 431 (nomen nudum).

1859 **Rhus Brunneri** Fischer-Ooster in Heer, p. 83, pl. CXXVI, figs. 12—19.

1861 **Rhus Brunneri** F.-O.: Ettingshausen, p. 261.

1868 **Rhus Brunneri** F.-O.: Heer, p. 153, pl. XXVII, fig. 9.

1870 **Rhus brunneri** F.-O.: Württenberger, p. 577.

1874 **Rhus Brunneri** F.-O.: Schimper, p. 279.

1881 **Rhus Brunneri** F.-O.: Engler, p. 415.

1899 **Rhus Brunneri** F.-O.: Boulay, p. 124 (70), pl. IX, fig. 97.

1910 **Rhus brunneri** F.-O.: Lauby, p. 372.

1921 **Rhus brunneri** F.-O.: Fritel, p. 384.

1929 **Rhus brunneri** F.-O.: Scheid, p. 80.

Occurrence: Miocene; Germany (Baden), Iceland, Switzerland, France.

Rhus caryaefolia Massalongo.

1857 **Rhus caryaefolia** Massalongo, p. 24.

1858 **Rhus caryaefolia** Mass.: Massalongo, p. 400, pl. XXVI; XXVII, fig. 35.

1893 **Rhus caryaefolia** Mass.: Meschinelli & Squinabol, p. 346.

Occurrence: Miocene; Sinigaglia.

Rhus cassiaeformis Ettingshausen.

- 1853 **Rhus cassiaeformis** Ettingshausen, p. 81, pl. XXVI, figs. 30-38.
 1861 **Rhus cassiaeformis** Ett.: Ettingshausen, p. 262.
 1870 **Rhus cassiaeformis** Ett.: Ettingshausen, p. 91.
 1874 **Rhus cassiaeformis** Ett.: Schimper, p. 273.
 1881 **Rhus cassiaeformis** Ett.: Engler, p. 414.
 1888 **Rhus cassiaeformis** Ett.: Ettingshausen, p. 355.
 1903 **Rhus cassiaeformis** Ett.: Menzel, p. 17.
 1910 **Rhus cassiaeformis** Ett.: Brabenec, p. 242.
 1911 **Rhus cassiaeformis** Ett.: Kafka, p. 62.

Occurrence: Oligocene; Bohemia, Austria.

Rhus cassioides Lesquereux.

- 1883 **Rhus cassioides** Lesquereux, p. 193, pl. XLI, fig. 11.
 Occurrence: Miocene; U.S.A. (Colorado, Florissant).

Rhus colligenda Saporta.

- 1867 **Rhus colligenda** Saporta, p. 111, pl. XII, fig. 1.
 1874 **Rhus colligenda** Sap.: Schimper, p. 275.
 1881 **Rhus colligenda** Sap.: Engler, p. 415.
 Occurrence: Tertiary; S.E. France (Bois d'Asson).

Rhus coloradensis Knowlton.

- 1924 **Rhus coloradensis** Knowlton, p. 90, pl. X, fig. 4.
 Occurrence: Eocene; U.S.A. (Colorado).

Rhus copalifolia Saporta.

- 1863a **Rhus copalifolia** Saporta, p. 96, pl. XI, fig. 3.
 1874 **Rhus copalifolia** Sap.: Schimper, p. 275.
 1881 **Rhus copalifolia** Sap.: Engler, p. 415.
 Occurrence: Tertiary; France (St. Zacharie).

Rhus coriacea Engelhardt.

[Non **R. coriacea** Engler, 1883,

in D. C., Monogr. Phan., IV, p. 418.]

- 1880 **Rhus coriacea** Engelhardt, p. 145, pl. VIII, fig. 18.
 1910 **Rhus coriacea** Engelh.: Brabenec, p. 243.
 Occurrence: Miocene; Bohemia.

Rhus coriaria Linnaeus.

- 1929 **Rhus coriaria** L. (?): Stojanoff & Stefanoff, p. 80, pl. IX, fig. 10; text-fig. 21, fig. 2.
 Occurrence: Pliocene; Bulgaria.

Rhus coriarioides Lesquereux.

- 1883 **Rhus coriarioides** Lesquereux, p. 193, pl. XLI, fig. 3.
 1910 **Rhus coriarioides** Lesq.: Cockerell, p. 38, text-fig. 4.
 Occurrence: Miocene; U.S.A. (Colorado, Florissant).

[*Rhus cotinus* Linnaeus]

Synonym of *Cotinus coggygia* Scop., q. v.

Rhus crepini Pilar.

1883 *Rhus crepini* Pilar, p. 114, pl. X, fig. 11.

Occurrence: Miocene; Croatia (Dolje).

Rhus cretacea Heer.

1871a *Rhus cretacea* Heer, p. 14, pl. III, fig. 11.

1888 *Rhus cretacea* Heer: Schulze, p. 22.

1906 *Rhus cretacea* Heer: Hollick, p. 87, pl. XXXIII, fig. 2.

1913 *Rhus cretacea* Heer: Stopes, p. 199.

Occurrence: Cretaceous; Saxony (Quedlinburg), U.S.A. (Long Island).

[*Rhus cretacea* Bozzi (non Heer)]

Synonym of *Rhus antiqua* Bozzi, q. v.

[*Rhus cretacea* Velenovsky (non Heer)].

1887 *Rhus cretacea* Velenovsky, p. 7, pl. IV, figs. 7—12.

1896 *Rhus cretacea* Velen.: Bayer, p. 24.

1897 *Rhus cretacea* Velen.: Frič, p. 81, fig. 117.

1913 *Rhus cretacea* Velen.: Stopes, p. 199.

Remarks: Velenovsky's specific name is pre-occupied, but the identification of these leaves is so dubious that they are not worth re-naming.

Occurrence: Cretaceous; Bohemia.

Rhus cuneolata Unger.

1848 *Rhus cuneolata* Unger, p. 509.

1849 *Rhus cuneolata* Unger: Brongniart, p. 122.

1850 *Rhus cuneolata* Unger: Unger, p. 474.

1860 *Rhus cuneolata* Unger: Unger, p. 44, pl. XX, fig. 12.

1861 *Rhus cuneolata* Unger: Ettingshausen, p. 262.

1874 *Rhus cuneolata* Unger: Schimper, p. 271.

1881 *Rhus cuneolata* Unger: Engler, p. 414.

Occurrence: Miocene; Styria (Parschlug).

[*Rhus cyclophylla* „Ett. & Gard.“]

1880 *Rhus cyclophylla* „Ett. & Gard.“: Ettingshausen, p. 235.

Remarks: Nomen nudum.

Occurrence: Eocene; England (Alum Bay).

Rhus darlingtonensis Berry.

1914 *Rhus darlingtonensis* Berry, p. 51, pl. IX, figs. 7, 8.

Occurrence: Upper Cretaceous; U.S.A. (S. Carolina).

Rhus decora Saporta.

- 1865a **Rhus decora** Saporta, p. 205, pl. XIII, fig. 5.
 1874 **Rhus decora** Sap.: Schimper, p. 277.
 1881 **Rhus decora** Sap.: Engler, p. 415.
 1930 **Rhus decora** Sap.: Calmet, p. 188.
 Occurrence: Oligocene; France (Armissan).

Rhus degener Ettingshausen.

- 1853 **Rhus degener** Ettingshausen, p. 80, pl. XXVI, fig. 39.
 1861 **Rhus degener** Ett.: Ettingshausen, p. 261.
 1874 **Rhus degener** Ett.: Schimper, p. 272.
 1881 **Rhus degener** Ett.: Engler, p. 414.
 Occurrence: Oligocene; Austria (Häring).

Rhus deleta Heer.

- 1859 **Rhus deleta** Heer, p. 83, pl. CXXVII, fig. 8; CLIV, fig. 26.
 1861 **Rhus deleta** Heer: Ettingshausen, p. 261.
 1868 **Rhus deleta** Heer: Ettingshausen, p. 884, pl. V, fig. 11.
 1872 **Rhus deleta** Heer: Lesquereux, p. 12.
 1874 **Rhus deleta** Heer: Schimper, p. 279.
 1881 **Rhus deleta** Heer: Engler, p. 415.
 1883 **Rhus deleta** Heer: Probst, p. 228.
 1903 **Rhus deleta** Heer: Menzel, p. 17.
 1910 **Rhus deleta** Heer: Brabenec, p. 241.
 1911 **Rhus deleta** Heer: Kafka, p. 42.

Remarks: According to Ettingshausen (1868), the specimen figured by Ludwig (1860, pl. LIV, fig. 18) as *R. pteleaefolia* belongs to this species.

Occurrence: Oligocene; Bohemia, Germany (Salzhausen). Miocene; Baden (Oeningen). Tertiary; U.S.A. (Wyoming).

Rhus dens-mortis Bayer.

- 1893 **Rhus dens mortis** Bayer, pp. 19, 42, text-fig. 13.
 1893 **Rhus dens mortis** Bayer: Frič, p. 130, fig. 185.
 1913 **Rhus dens mortis** Bayer: Stopes, p. 199.
 Remarks: An unidentifiable fragment.
 Occurrence: Cretaceous; Bohemia (Priesen).

Rhus denticulata Saporta.

- 1889 **Rhus denticulata** Saporta, p. 107, pl. XVI, fig. 15.
 Occurrence: Oligocene; France (Aix-en-Provence).

Rhus deperdita Staub.

- 1881 **Rhus deperdita** Staub, p. 272, pl. V, figs. 2, 3.
 Occurrence: Miocene; Roumania (Krasso-Szorenyer Kom.).

Rhus derelicta Saporta.

- 1865 **Rhus derelicta** Saporta, p. 133, pl. VIII, fig. 3.
 1874 **Rhus derelicta** Sap.: Schimper, p. 275.
 1881 **Rhus derelicta** Sap.: Engler, p. 415.
 Occurrence: Tertiary; France (Fenestrelle, Allauch).

Rhus dispersa Lesquereux.

- 1878 **Rhus dispersa** Lesquereux, p. 32, pl. I, fig. 23.
 1896 **Rhus dispersa** Lesq.: Knowlton in Lindgren, p. 890.
 1911a **Rhus dispersa** Lesq.: Knowlton, pp. 60, 62.
 Occurrence: Miocene; U.S.A. (California).

Rhus distracta Saporta.

- 1862a **Rhus distracta** Saporta, p. 279.
 1873 **Rhus distracta** Sap.: Saporta, p. 109, pl. XV, fig. 40.
 1874 **Rhus distracta** Sap.: Schimper, p. 271.
 1881 **Rhus distracta** Sap.: Engler, p. 414.
 Occurrence: Oligocene; France (Aix-en-Provence).

Rhus diversiloba Torr. & Gray.

- 1932 **Rhus diversiloba** T. & G.: Potbury, p. 36, pl. 4, fig. 1.
 1933 **Rhus diversiloba** T. & G.: Chaney & Mason, p. 62.
 1934 **Rhus diversiloba** T. & G.: Mason, p. 166, pl. X, fig. 3.
 Remarks: Potbury's reference is to a seed of a species which still lives in California. Chaney & Mason refer to wood fragments only.
 Occurrence: Pleistocene; U.S.A. (California).

[Rhus (?) drymeja Lesquereux.]

- 1874 **Rhus (?) drymeja** Lesquereux, p. 416.
 Remarks: Referred to *Myrica drymeja* (Lesq.) by Knowlton (1916, p. 256) and also to *Callicoma microphylla* Ett. by Principi (1926, p. 65).
 Occurrence: Miocene; U.S.A. (Colorado).

Rhus dunelmensis Reid.

- 1920 **Rhus dunelmensis** Reid, E. M., p. 129, pl. IX, fig. 11.
 Remarks: Endocarp.
 Occurrence: Middle Pliocene; England (Castle Eden).

Rhus effossa Saporta.

- 1889 **Rhus effossa** Saporta, p. 107, pl. XV, fig. 10.
 Occurrence: Oligocene; France (Aix-en-Provence).

Rhus elaeodendroides Unger.

- 1848 **Rhus elaeodendroides** Unger, p. 509.
 1849 **Rhus elaeodendroides** Unger: Brongniart, p. 122.
 1850 **Rhus elaeodendroides** Unger: Unger, p. 474.
 1860 **Rhus elaeodendroides** Unger: Unger, p. 45, pl. XXI, figs. 1—11.
 1861 **Rhus elaeodendroides** Unger: Ettingshausen, p. 262.
 1862 **Rhus elaeodendroides** Unger: Unger, p. 179, fig. 47.
 1867b **Rhus elaeodendroides** Unger: Saporta, p. 418, pl. LXIV, fig. 8.
 1868 **Rhus elaeodendroides** Unger: Saporta, p. 321.
 1874 **Rhus elaeodendroides** Unger: Schimper, p. 276.

- 1881 *Rhus elaeodendroides* Unger: Engler, p. 415.
 1885 *Rhus elaeodendroides* Unger: Engelhardt, p. 364, pl. XXV, figs. 8, 9.
 1898 *Rhus elaeodendroides* Unger: Engelhardt, p. 111.
 1903 *Rhus elaeodendroides* Unger: Menzel, p. 17.
 1910 *Rhus elaeodendroides* Unger: Brabenec, p. 239.
 1911 *Rhus elaeodendroides* Unger: Kafka, p. 42.

Remarks: According to Fritel (1921, p. 580) Unger's specimen from Kumi (1862, p. 179, fig. 47) belongs to *Quercus zoroasteri* Unger.

Occurrence: Oligocene; Bohemia. Miocene; Styria (Par-schlug), Greece (Kumi, Euboea).

Rhus elegans Velenovsky.

[Non *R. elegans* Aiton, 1789, Hort. Kew. ed. 1, p. 366.]

- 1881 *Rhus elegans* Velenovsky, p. 45, pl. X, figs. 5—11.
 1910 *Rhus elegans* Velen.: Brabenec, p. 240, text-fig. 150 f.
 Occurrence: Miocene; Bohemia (Laun, Zelenky).

Rhus engleri Nathorst.

- 1883 *Rhus engleri* Nathorst, p. 59, pl. X, fig. 1.
 1883 *Rhus engleri* Nathorst: Saporta, p. 160.
 1884 *Rhus engleri* Nathorst: Saporta, p. 84.
 Occurrence: Tertiary; Japan.

Rhus evansii Lesquereux.

- 1872a *Rhus evansii* Lesquereux, p. 293.
 1873 *Rhus evansii* Lesq.: Lesquereux, p. 402.
 1878a *Rhus evansii* Lesq.: Lesquereux, p. 291, pl. L, fig. 4; LVIII, figs. 5—9.
 1913 *Rhus evansii* Lesq.: Stopes, p. 199.
 Occurrence: Miocene; U.S.A. (Colorado). Tertiary; U.S.A. (Wyoming).

[*Rhus fraterna* Lesquereux]

Synonym of *Cotinus fraterna* (Lesq.), q. v.

Rhus fraxinoides Ettingshausen.

- 1853 *Rhus fraxinoides* Ettingshausen, p. 80, pl. XXVI, fig. 43.
 1861 *Rhus fraxinoides* Ett.: Ettingshausen, p. 261.
 1874 *Rhus fraxinoides* Ett.: Schimper, p. 272.
 1881 *Rhus fraxinoides* Ett.: Engler, p. 414.
 Occurrence: Oligocene; Austria (Häring).

Rhus frigida Knowlton.

- 1894 *Rhus frigida* Knowlton, p. 227, pl. IX, fig. 6.
 1894a *Rhus frigida* Knowlton: Knowlton, p. 586.
 1896 *Rhus frigida* Knowlton: Knowlton, pp. 888, 896.
 Remarks: Very much like *R. meriani*, „almost impossible to distinguish“.
 Occurrence: ? Miocene; Alaska (Hereenden Bay).

[*Rhus gervaisii* (Saporta)]

Synonym of *Pistacia gervaisi* Saporta, q. v.

Rhus glowackii Ettingshausen.

- 1888 *Rhus glowackii* Ettingshausen, p. 356, pl. IX, figs. 14, 14a.
Occurrence: Miocene; Styria (Leoben).

Rhus gracilis Saporta.

- 1863a *Rhus gracilis* Saporta, p. 95.
1873 *Rhus gracilis* Sap.: Saporta, p. 109, pl. XVI, fig. 4.
1874 *Rhus gracilis* Sap.: Schimper, pp. 274, 708.
1881 *Rhus gracilis* Sap.: Engler, p. 415.
1886 *Rhus gracilis* Sap.: Saporta, p. 192.
Occurrence: Oligocene; France (Aix-en-Provence).

Rhus griffithsii Hook fil. *fossilis* Nathorst.

- 1883 *Rhus griffithsii* Hook fil. *fossilis* Nathorst, p. 186, pl. XVI, figs. 10, 11; XVII, fig. 13.
1883 *Rhus griffithsii* Hook fil. *fossilis* Nathorst: Saporta, p. 160.
1884 *Rhus griffithsii* Hook fil. *fossilis* Nathorst: Saporta, p. 84.
Occurrence: Tertiary; Japan.

[*Rhus hartogiaefolia* Massalongo.]

- 1859 *Rhus hartogiaefolia* Massalongo, p. 104.
1893 *Rhus hartogiaefolia* Mass.: Meschinelli & Squinabol, p. 347.
Remarks: Nomen nudum.

[*Rhus haydeni* Lesquereux.]

- 1874 *Rhus haydeni* Lesquereux, p. 417.
1878a *Rhus Haydenii* Lesq.: Lesquereux, p. 294, pl. LVIII, fig. 12.
1888 *Rhus Haydeni* Lesq.: Schenk, p. 544, fig. 310⁴.
Remarks: Referred to *Weinmannia haydenii* (Lesq.) by Cockrell (1908, p. 93).
Occurrence: Miocene; Colorado (Florissant).

Rhus helladotherii Unger.

- 1867 *Rhus helladotherii* Unger, p. 78, pl. XIV, figs. 14, 15.
1874 *Rhus Helladotherii* Unger: Schimper, p. 272.
1881 *Rhus Helladotherii* Unger: Engler, p. 414.
Remarks: According to Fritel (1922, p. 127) Unger's fig. 14 should be referred to *Sapindus graecus*.
Occurrence: Miocene; Greece (Kumi, Euboea).

Rhus herthae Unger.

- 1848 *Rhus herthae* Unger, p. 509.
1849 *Rhus Herthae* Unger: Brongniart, p. 122.
1850 *Rhus Herthae* Unger: Unger, p. 473.

- 1850a *Rhus herthae* Unger: Unger, p. 126, pl. XIV, fig. 21.
 1860 *Rhus herthae* Unger: Unger, p. 42, pl. XX, figs. 7—9.
 1861 *Rhus Herthae* Unger: Ettingshausen, p. 262.
 1867 *Rhus herthae* Unger: Stur, p. 183.
 1870 *Rhus herthae* Unger: Unger, p. 13, pl. IV, fig. 10.
 1874 *Rhus Herthae* Unger: Schimper, p. 271.
 1881 *Rhus Herthae* Unger: Engler, p. 414.
 1885 *Rhus herthae* Unger: Engelhardt, p. 364, pl. XXV, figs. 10, 12.
 1888 *Rhus Herthae* Unger: Schenk, p. 544, fig. 310.
 1902b *Rhus herthae* Unger: Engelhardt, p. 142.
 1903 *Rhus herthae* Unger: Engelhardt, p. 132, pl. III, fig. 15.
 1904 *Rhus herthae* Unger: Engelhardt, p. 382, pl. XCIV, fig. 15.
 1910 *Rhus Herthae* Unger: Brabenec, p. 239.

Occurrence: Oligocene; Bohemia, Yugo-Slavia (Visoko). Miocene; Styria (Parschlug), Hungary (Szantod). Tertiary; Galicia.

Rhus heterodonta Principi.

- 1921 *Rhus heterodonta* Principi, p. 91.
 1926 *Rhus heterodonta* Prin.: Principi, p. 70, pl. VII, fig. 20; VIII, figs. 4, 5.

Occurrence: Oligocene; Italy (Salcedo).

Rhus heufleri Heer.

- 1859 *Rhus Heufleri* Heer, p. 85, pl. CXXVII, figs. 3—6.
 1861 *Rhus Heufleri* Heer: Ettingshausen, p. 262.
 1870 *Rhus heufleri* Heer: Württenberger, p. 577.
 1874 *Rhus Heufleri* Heer: Schimper, p. 274.
 1881 *Rhus Heufleri* Heer: Engler, p. 415.
 1883 *Rhus heufleri* Heer: Probst, p. 228.
 1888 *Rhus heufleri?* Heer: Lesquereux, p. 26.
 1892 *Rhus heufleri* Heer: Boulay, p. 86, pl. VIII, figs. 16—19.
 1897 *Rhus Heufleri* Heer: Almera, p. 17.
 1898 *Rhus Heufleri* Heer: Almera, p. 686.
 1899 *Rhus heufleri* Heer: Peola, p. 37.
 1899a *Rhus heufleri* Heer: Peola, p. 105.
 1900 *Rhus heufleri* Heer: Peola, p. 245.
 1903 *Rhus heufleri* Heer: Menzel, p. 17.
 1910 *Rhus heufleri* Heer: Lauby, p. 372.
 1911 *Rhus heufleri* Heer: Kafka, p. 42.
 1911a *Rhus heufleri* Heer: Knowlton, p. 62.
 1920 *Rhus heufleri* Heer: Vaulx & Marty, p. 293.

Occurrence: Oligocene; Bohemia (Preschen). Miocene; Baden (Oeningen, Klettgau), Switzerland (Locle), U.S.A. (California). Pliocene; France (Mont-Dore, Varennes, Dent du Marais), Italy (Sciolze, Langhiano), Barcelona (Montjuich).

Rhus hilliae Lesquereux.

- 1883 *Rhus hilliae* Lesquereux, p. 194, pl. XL, figs. 12—15.
 1908 *Rhus hilliae* Lesq.: Cockerell, p. 99.
 1916 *Rhus hilliae* Lesq.: Knowlton, p. 278.

Occurrence: Miocene; U.S.A. (Colorado, Florissant).

Rhus holbolliana Heer.

- 1883a *Rhus holbolliana* Heer, p. 134, pl. LXIX, fig. 7.
 Occurrence: Tertiary; Greenland (Atanekrdluk).

Rhus hydrophila (Unger) Ettingshausen.

- 1851 **Juglans hydrophila** Unger, p. 179, pl. LIII, fig. 5 (only).
 1858 **Rhus hydrophila** (Unger) Ettingshausen, p. 539.
 1861 **Rhus hydrophila** (Unger): Heer, p. 30.
 1861 **Rhus hydrophila** (Unger): Ettingshausen, p. 261.
 1869 **Rhus hydrophila** (Unger): Ettingshausen, p. 49, pl. LI, fig. 3.
 1877 **Rhus hydrophila** (Unger): Ettingshausen, p. 200, pl. XVIII, fig. 15.
 1881 **Rhus hydrophila** (Unger): Engler, p. 416.
 1906 **Rhus hydrophila** (Unger): Kerner, p. 70.
 1907 **Rhus hydrophila** (Unger): Kerner, p. 139.
 1910 **Rhus hydrophila** (Unger): Brabenec, p. 241, text-fig. 150c.
 1911 **Rhus hydrophila** (Unger): Kafka, pp. 28, 62.

Occurrence: Oligocene; Bohemia (Kutschlin, Sulloditz), Carniola (Sagor). Miocene; Styria (Sotzka), Baden (Oeningen). Tertiary; Dalmatia (Ruda).

Rhus incisa Saporta.

[Non **R. incisa** Linn. f., 1781, Suppl., p. 183]

- 1867 **Rhus incisa** Saporta, p. 111, pl. XI, fig. 4.
 1874 **Rhus incisa** Sap.: Schimper, p. 271.
 1881 **Rhus incisa** Sap.: Engler, p. 414.

Occurrence: Tertiary; S.E. France.

Rhus intermedia Ettingshausen.

- 1888 **Rhus intermedia** Ettingshausen, p. 355, pl. I, fig. 12; IX, figs. 12, 13.

Occurrence: Miocene; Styria (Leoben).

[Rhus jasminifolia Massalongo.]

- 1850 **Rhus jasminifolia** Massalongo, p. 69 (not seen).

Remarks: Synonym of *Robinia decampii* Massalongo, 1850, p. 68, which was later transferred to *Drepanocarpus*, and also includes *Rhus oeningensis* Unger (q. v.). See Meschinelli & Squinabol, 1893, p. 456, for further references.

Rhus juglandina Ettingshausen.

- 1870 **Rhus juglandina** Ettingshausen, p. 91, pl. III, fig. 21.
 1874 **Rhus juglandina** Ett.: Schimper, p. 278.
 1881 **Rhus juglandina** Ett.: Engler, p. 415.
 1888 **Rhus juglandina** Ett.: Ettingshausen, p. 355.

Occurrence: Miocene; Styria (Leoben).

Rhus juglandogene Ettingshausen.

- 1853 **Rhus juglandogene** Ettingshausen, p. 80.
 1861 **Rhus juglandogene** Ett.: Ettingshausen, p. 261.
 1865a **Rhus juglandogene** Ett.: Saporta, p. 204, pl. XIII, fig. 2.
 1867 **Rhus juglandogene** Ett.: Saporta, p. 110.
 1869 **Rhus juglandogene** Ett.: Ettingshausen, p. 50, pl. I, fig. 13.

- 1874 *Rhus juglandogene* Ett.: Schimper, p. 276.
 1876 *Rhus juglandogene* Ett.: Engelhardt, p. 390, pl. VII, fig. 15.
 1881 *Rhus juglandogene* Ett.: Engler, p. 415.
 1888 *Rhus juglandogene* Ett.: Schenk, p. 539, fig. 309¹.
 1898 *Rhus juglandogene* Ett.: Engelhardt, p. 111.
 1899 *Rhus juglandogene* Ett.: Laurent, p. 136, pl. XIV, fig. 8.
 1908 *Rhus juglandogene* Ett.: Lauby, p. 156.
 1910 *Rhus juglandogene* Ett.: Lauby, pp. 122, 372.
 1910 *Rhus juglandogene* Ett.: Brabenec, p. 243, text-fig. 150 i.
 1910 *Rhus juglandogene* Ett.: Engelhardt, p. 164, pl. IV, fig. 6.
 1911 *Rhus juglandogene* Ett.: Kafka, pp. 28, 53, 62.
 1912 *Rhus juglandogene* Ett.: Engelhardt, p. 629, pl. XXXV, fig. 6.
 1922 *Rhus juglandogene* Ett.: Engelhardt, p. 105, pl. XXXVI, fig. 12.
 1930 *Rhus juglandogene* Ett.: Calmet, p. 188.
 1933 *Rhus juglandogene* Ett.: Gothan & Sapper, p. 23, pl. V, fig. 4.
 Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt). Oligocene and Miocene; Bohemia, France, Bosnia.

Rhus latoniae Ettingshausen.

- 1885 *Rhus latoniae* Ettingshausen, p. 26, pl. XXXII, fig. 9.
 1911 *Rhus latoniae* Ett.: Engelhardt, p. 391, pl. XLII, fig. 60.
 Occurrence: Oligocene; Carniola (Sagor), Germany (Flörsheim).

Rhus leporina Heer.

- 1883a *Rhus leporina* Heer, p. 135, pl. XCIV, fig. 5.
 Occurrence: Tertiary; Greenland (Hare I.).

Rhus lesquereuxiana Heer.

- 1859 *Rhus Lesquereuxiana* Heer, p. 83, pl. OLIV, fig. 25.
 1860 *Rhus lesquereuxiana* Heer: Gaudin & Strozzi, p. 54, pl. VII, fig. 10.
 1861 *Rhus Lesquereuxiana* Heer: Ettingshausen, p. 261.
 1864 *Rhus lesquereuxiana* Heer: Gaudin & Strozzi, pp. 5, 30.
 1874 *Rhus Lesquereuxiana* Heer: Schimper, p. 279.
 1881 *Rhus Lesquereuxiana* Heer: Engler, p. 415.
 1893 *Rhus Lesquereuxiana* Heer: Meschinelli & Squinabol, p. 346.
 Occurrence: Tertiary; Switzerland (Locle), Italy (Val d'Arno, Gaville, Castelnuovo).

[*Rhus lesquereuxii* Knowlton & Cockerell.]

- 1919 *Rhus lesquereuxii* Knowlton & Cockerell, p. 552.
 1923 *Rhus lesquereuxii* Knowl. & Cock.: Knowlton, p. 167.
 Remarks: This name was presumably included in error by Knowlton and is a synonym of *Weinmannia lesquereuxii* Cockerell. See *R. acuminata* Lesq.

[*Rhus lestrigonom* Massalongo.]

- 1851 *Rhus lestrigonom* Massalongo, pp. 51, 202, (nomen nudum).
 Remarks: Afterwards described as a *Drepanocarpus* and later transferred to *Pterocarpus* (Massalongo, 1858; Meschinelli & Squinabol, 1893, p. 456).
 Fossilium Catalogus II. 20.

Rhus longepetiolata (Lesq.) Brown.

1883 *Ailanthus longepetiolata* Lesquereux, p. 197, pl. XL, fig. 6 (non fig. 7).

1929 *Rhus myricoides* Knowlton: Brown, p. 287, pl. LXXXIII, fig. 9.

1934 *Rhus longepetiolata* (Lesq.) Brown, p. 59.

Occurrence: Eocene (Green River); U.S.A. (Colorado).

Rhus longifolia Engelhardt.

[Non *R. longifolia* Sonder, 1859

in Sond. & Harv., Fl. Cap. 1, p. 522.]

1922 *Rhus longifolia* Engelhardt, p. 105, pl. XXXVI, fig. 13.

Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt).

Rhus macilenta Saporta.

1889 *Rhus macilenta* Saporta, p. 107, pl. XV, fig. 9.

Occurrence: Oligocene; France (Aix-en-Provence).

Rhus malpighiaefolia Weber.

1851 *Rhus malpighiaefolia* Weber, p. 404 (nomen nudum).

1852 *Rhus malpighiaefolia* Weber, p. 214, pl. XXIII, fig. 12.

1861 *Rhus malpighiaefolia* Weber: Ettingshausen, p. 261.

1874 *Rhus malpighiaefolia* Weber: Schimper, p. 273.

1881 *Rhus malpighiaefolia* Weber: Engler, p. 414.

1926 *Rhus malpighiaefolia* Weber: Wilckens, p. 38.

Remarks: According to Schimper (1874, p. 158) this species very likely belongs to *Malpighiastrum glabraefolium* (Wessel & Weber) Schimper.

Occurrence: Upper Oligocene and Lower Miocene; Rhineland.

Rhus membranacea Lesquereux.

1876 *Rhus membranacea* Lesquereux, p. 306.

1876a *Rhus membranacea* Lesq.: Lesquereux, p. 369.

1878a *Rhus membranacea* Lesq.: Lesquereux, p. 292, pl. LXIV, figs. 6, 7.

1897 *Rhus membranacea* Lesq.: Stanton & Knowlton, p. 154.

1900 *Rhus membranacea* Lesq.: Knowlton, p. 61.

1913 *Rhus membranacea* Lesq.: Stopes, p. 199.

Occurrence: Cretaceous (Mesaverde); U.S.A. (Wyoming, Point of Rocks).

Rhus mensae Cockerell.

1878 *Rhus metopioides* Lesquereux (non Turc.), p. 31, pl. VIII, figs. 12, 13.

1908 *Rhus mensae* Cockerell, p. 543.

1911a *Rhus metopioides* Lesq.: Knowlton, p. 60.

Occurrence: Miocene (Auriferous Gravels); U.S.A. (California).

Rhus meriani Heer.

- 1853 **Rhus meriani** Heer, p. 147.
 1859 **Rhus Meriani** Heer: Heer, p. 82, pl. CXXVI, figs. 5—11.
 1860 **Rhus meriani** Heer: Unger in Rolle & Unger, p. 51, pl. V, fig. 5.
 1861 **Rhus Meriani** Heer: Ettingshausen, p. 260.
 1861 **Rhus meriani** Heer: Brongniart, p. 1236.
 1874 **Rhus Meriani** Heer: Schimper, p. 278.
 1880 **Rhus meriani** Heer: Sieber, p. 90, pl. V, figs. 39—40.
 1881 **Rhus Meriani** Heer: Engler, p. 415.
 1881 **Rhus meriani** Heer: Velenovsky, p. 44, pl. VII, figs. 16—20; VIII, fig. 27; X, fig. 12.
 1883 **Rhus meriani** Heer: Probst, p. 228.
 1883 **Rhus meriani** Heer: Steger, p. 25.
 1884 **Rhus meriani** Heer: Engelhardt, p. 148.
 1891a **Rhus meriani** Heer: Engelhardt, p. 193, pl. XVII, figs. 10, 18, 20, 22, 23; XVIII, figs. 1, 3, 8, 9, 11, 17.
 1894 **Rhus meriani** Heer: Engelhardt, p. 197, pl. II, fig. 9; IV, fig. 6.
 1895 **Rhus meriani** Heer: Engelhardt, p. 115.
 1895 **Rhus meriani** Heer: Keller, p. 328, pl. VI, fig. 5.
 1896 **Rhus meriani** Heer: Keller, p. 322, pl. XI, figs. 5—7.
 1897 **Rhus Meriani** Heer: Almera, p. 18.
 1910 **Rhus Meriani** Heer: Brabenec, p. 238, text-fig. 150 a.
 1922 **Rhus meriani** Heer: Engelhardt, p. 105, pl. XXXVI, fig. 15.
 Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt). Miocene; Switzerland (Rhonen, St. Martin, Eriz, St. Gallen), Baden (Oeningen), Styria (Schonstein), Greece (Kumi, Euboea). Tertiary; Bohemia, Silesia. Pliocene; Barcelona.

Rhus merrilli Chaney.

- 1927 **Rhus merrilli** Chaney, p. 125, pl. XVI, figs. 1, 2.
 1929a **Rhus merrilli** Chaney: Berry, p. 256, pl. LI, fig. 8.
 Occurrence: Upper Oligocene; Oregon. Miocene; Washington.

[**Rhus metopoides** Lesquereux (non Turczaninow)]

Synonym of **R. mensae** Cockerell, q. v.

Rhus micromera Saporta.

- 1865a **Rhus micromera** Saporta, p. 206, pl. XI, fig. 6.
 1874 **Rhus micromera** Sap.: Schimper, p. 277.
 1881 **Rhus micromera** Sap.: Engler, p. 415.
 1930 **Rhus micromera** Sap.: Calmet, p. 188.
 Occurrence: Oligocene; S. France (Armissan).

[**Rhus microphylla** Heer.]

[Non **R. microphylla** Engelmann

1852 in A. Gray, Pl. Wright., 1, p. 31.]

- 1871 **Rhus microphylla** Heer, p. 1184.
 1872 **Rhus microphylla** Heer: Heer, p. 164.
 1874 **Rhus microphylla** Heer: Heer, p. 117, pl. XXXII, fig. 18.
 1882 **Rhus microphylla** Heer: Heer, p. 99.

1889 *Rhus microphylla* Heer: Velenovsky, p. 61.

1913 *Rhus microphylla* Heer: Stopes, p. 199.

Remarks: Referred to *Comptonia microphylla* by Berry, 1906, p. 508.

Occurrence: Cretaceous; Greenland, Bohemia.

Rhus milleri Hollick.

1904 *Rhus milleri* Hollick, p. 485, figs. 1 c, d.

1909 *Rhus milleri* Hollick: Berry, p. 29, fig. 9.

1916a *Rhus milleri* Hollick: Berry, p. 64.

Occurrence: Miocene (Calvert Formation); U.S.A. (Maryland, Virginia).

Rhus minuta Saporta.

1863a *Rhus minuta* Saporta, p. 95, pl. XI, fig. 2.

1874 *Rhus minuta* Sap.: Schimper, p. 274.

1881 *Rhus minuta* Sap.: Engler, p. 415.

Occurrence: Tertiary; S. France (St. Zacharie).

Rhus minutissima Saporta.

1873 *Rhus minutissima* Saporta, p. 109, pl. XVI, fig. 5.

1874 *Rhus minutissima* Sap.: Schimper, p. 703.

Occurrence: Oligocene; France (Aix-en-Provence).

Rhus mixta Lesquereux.

1878 *Rhus mixta* Lesquereux, p. 30, pl. IX, fig. 13.

1899 *Rhus mixta?* Lesq.: Knowlton, p. 731.

1911a *Rhus mixta* Lesq.: Knowlton, pp. 56, 62.

Occurrence: Miocene; U.S.A. (California, Yellowstone National Park).

Rhus munzenbergensis Ettingshausen.

1860 *Rosa angustifolia* Ludwig, p. 142, pl. LIX, fig. 8.

1868 *Rhus munzenbergensis* Ettingshausen, p. 885.

1874 *Rhus munzenbergensis* Ett.: Schimper, p. 278.

1881 *Rhus munzenbergensis* Ett.: Engler, p. 415.

1881 *Rhus angustifolia* (Ludw.) non Linn.: Engler, p. 415.

Occurrence: Oligocene; Wetterau (Munzenberg).

Rhus myricaefolia Lesquereux.

1878 *Rhus myricaefolia* Lesquereux, p. 31, pl. I, figs. 5—8.

1896 *Rhus myricaefolia* Lesq.: Knowlton in Lindgren, p. 890.

1911 *Rhus myricaefolia* Lesq.: Knowlton, p. 24.

1911a *Rhus myricaefolia* Lesq.: Knowlton, p. 62.

Occurrence: Miocene; U.S.A. (California).

Rhus myricoides Knowlton.

1923 *Rhus myricoides* Knowlton, p. 168, pl. XXXVII, figs. 9—11.

1929 *Rhus myricoides* Knowl.: Brown, p. 287, pl. LXXIII, fig. 9.

Remarks: Knowlton states that this species is very close to *R. nigricans*. Cockerell (1925, p. 4) says that Knowlton's fig. 11 belongs to *R. variabilis*, and Brown (1929) transfers Knowlton's fig. 10, 11 to *R. variabilis*, retaining fig. 9 as the type of *R. myricoides*, which is said to be very like *R. coriarioides*. Lesq. But see also Brown (1934, p. 59), where this species is re-named *Rhus longepetiolata* (Lesq.).

Occurrence: Eocene (Green River); U.S.A. (Colorado).

Rhus napaeorum Unger.

- 1848 *Rhus napaeorum* Unger, p. 509.
 1849 *Rhus Napaeorum* Ung.: Brongniart, p. 122.
 1850 *Rhus Napaeorum* Ung.: Unger, p. 474.
 1860 *Rhus napaeorum* Ung.: Unger, p. 43, pl. XX, fig. 11.
 1861 *Rhus Napaeorum* Ung.: Ettingshausen, p. 262.
 1874 *Rhus Napaeorum* Ung.: Schimper, p. 271.
 1881 *Rhus Napaeorum* Ung.: Engler, p. 414.

Occurrence: Miocene; Styria (Parschlug).

[*Rhus nervosa* Newberry (non Ecklon & Zeyher)]

Synonym of *R. unitus* Knowl. & Cock., q. v.

Rhus nigricans (Lesq.) Knowlton.

- 1872 *Myrica nigricans* Lesquereux, p. 6.
 1878a *Myrica nigricans* Lesq.: Lesquereux, p. 132, pl. XVII, figs. 9—12.
 1923 *Rhus nigricans* (Lesq.) Knowlton, p. 168.

Remarks: Stated to be close to *R. variabilis* and *R. myricoides*.

Occurrence: Eocene (Green River); U.S.A. (Wyoming).

Rhus nitida Unger.

[Non *R. nitida* Engler, 1883 in D. C. Mon. Phan., IV, p. 434.]

- 1848 *Rhus nitida* Unger, p. 509.
 1849 *Rhus nitida* Ung.: Brongniart, p. 122.
 1850 *Rhus nitida* Ung.: Unger, p. 474.

Occurrence: Miocene; Styria (Parschlug).

Rhus noeggerathii Weber.

- 1851 *Rhus noeggerathii* Weber, p. 403 (nomen nudum).
 1852 *Rhus noeggerathii* Weber, p. 212, pl. XXIII, fig. 14.
 [1853 *Rhus noeggerathii* Weber: Massalongo, p. 24.]
 1861 *Rhus Noeggerathii* Web.: Ettingshausen, p. 261.
 1874 *Rhus Noeggerathii* Webb.: Schimper, p. 279.
 1881 *Rhus Noeggerathii* Web.: Engler, p. 415.
 1902 *Rhus noeggerathii* Web.: Engelhardt, p. 294, pl. V, fig. 21.
 1926 *Rhus noeggerathii* Web.: Wilckens, p. 38.

Remarks: Massalongo's *R. noeggerathii* is a synonym of *Juglans stygia* Visiani & Massalongo (1854, p. 121; 1858, p. 230).

Occurrence: Miocene; Rhineland.

[*Rhus obliqua* Al. Braun (**non** Thunberg, **non** Menzel)].

1851 *Rhus obliqua* Al. Braun MS: Stizenberger, p. 86.

1853 *Rhus obliqua* Al. Br.: Heer, p. 147.

Remarks: Nomen nudum.

Occurrence: Miocene; Baden (Oeningen).

Rhus obliqua Menzel (**non** Al. Braun).

[**Non** *R. obliqua* Thunberg, 1820, Fl. Cap., II, p. 224.]

1913 *Rhus obliqua* Menzel, p. 40, pl. IV, fig. 23.

Remarks: Fruit.

Occurrence: Miocene; Germany.

[*Rhus oblita* Saporta.]

See *R. blitum* Saporta.

Rhus obovata (Unger).

1866 *Echitonium obovatum* Unger, p. 18, pl. V, figs. 13, 14.

1870a *Rhus obovata* (Unger) Ettingshausen, p. 892.

1874 *Rhus obovata* (Unger): Schimper, p. 273.

1881 *Rhus obovata* (Unger): Engler, p. 414.

1885 *Rhus obovata* (Unger): Ettingshausen, p. 25, pl. XXXII, figs. 8, 8a.

Occurrence: Miocene; Carniola (Sagor), Croatia (Radoboj).

[*Rhus oeningensis* Unger.]

1849 *Rhus oeningensis* Unger, p. 351, pl. V, fig. 8.

1850 *Rhus oeningensis* Ung.: Unger, p. 475.

1853 *Rhus oeningensis* „Al. Br.“: Heer, p. 147.

Remarks: Transferred by Massalonga (1858, p. 770; 1859, p. 94) to *Drepanocarpus dacampii*. Wrongly stated by Unger to be from Oeningen.

Occurrence: Eocene; Italy (Mt. Bolca).

Rhus oligocenica Principi.

1921 *Rhus oligocenica* Principi, p. 90.

1926 *Rhus oligocenica* Prin.: Principi, p. 69, pl. VIII, figs. 6, 17; IX, fig. 13.

Occurrence: Oligocene; Italy (Chiavon).

Rhus orbiculata Heer.

1853 *Rhus orbicularis* Heer, p. 147 (nomen nudum).

1859 *Rhus orbiculata* Heer, p. 82, pl. CXXVII, fig. 9.

1861 *Rhus orbiculata* Heer: Ettingshausen, p. 260.

1867 *Rhus orbiculata* Heer: Stur, p. 183.

1874 *Rhus orbiculata* Heer: Schimper, p. 281.

1881 *Rhus orbiculata* Heer: Engler, p. 416.

1888 *Rhus orbiculata* Heer: Schenk, pp. 539, 541, fig. 3094.

1896 *Rhus orbiculata* Heer: Keller, p. 321, pl. VIII, fig. 6.

Remarks: Very probably related to *Cotinus*, according to Heer, Engler, and Schenk.

Occurrence: Miocene; Switzerland (Albis, St. Gallen), Austria.

***Rhus palaeocotinus* Saporta.**

1865a *Rhus palaeocotinus* Saporta, p. 208, pl. XII, fig. 7.

1874 *Rhus palaeocotinus* Sap.: Schimper, p. 280.

1881 *Rhus palaeocotinus* Sap.: Engler, p. 416.

1888 *Rhus palaeocotinus* Sap.: Schenk, pp. 541—42.

1893 *Rhus palaeocotinus* Sap.: Saporta, p. XVI.

1930 *Rhus palaeocotinus* „Engel“: Calmet, p. 189.

Remarks: Comparable according to Engler with *Cotinus* or *Anaphrenium*.

Occurrence: Oligocene; S. France (Armissan).

***Rhus palaeophylla* Saporta.**

1861 *Rhus palaeophyllum* Saporta, p. 148.

1862a *Rhus palaeophylla* Sap.: Saporta, p. 278, pl. XIII, fig. 1.

1873 *Rhus palaeophylla* Sap.: Saporta, p. 108.

1874 *Rhus palaeophylla* Sap.: Schimper, p. 270.

1881 *Rhus palaeophylla* Sap.: Engler, p. 414.

1890 *Rhus palaeophylla* Sap.: Schenk, p. 838.

Remarks: Compared with *Cotinus* by Schenk.

Occurrence: Oligocene; S. France (Armissan).

***Rhus palaeoradicans* Stur.**

1867 *Rhus palaeoradicans* Stur, p. 183, pl. V, fig. 13.

Occurrence: Miocene; Austria (Jastraba).

***Rhus paucidentata* Laurent.**

1899 *Rhus paucidentata* Laurent, p. 135, pl. XIV, fig. 7.

Occurrence: Oligocene; France (Oélas).

***Rhus paulliniaefolia* Ettingshausen.**

1854 *Rhus paulliniaefolia* Ettingshausen, p. 812, pl. II, fig. 10.

1856a *Rhus paulliniaefolia* Ett.: Kovats, p. 41.

1867 *Rhus paulliniaefolia* Ett.: Stur, p. 183.

1874 *Rhus paulliniaefolia* Ett.: Schimper, p. 273.

1881 *Rhus paulliniaefolia* Ett.: Engler, p. 414.

Occurrence: Miocene; Hungary (Tallya).

***Rhus payettensis* Knowlton.**

1898 *Rhus payettensis* Knowlton, p. 733, pl. CI, figs. 6, 7.

Occurrence: Miocene (Payette); U.S.A. (Idaho).

***Rhus pistacina* Saporta.**

1865a *Rhus pistacina* Saporta, p. 207, pl. XIII, fig. 4.

1874 *Rhus* (?) *pistacina* Sap.: Schimper, p. 280.

1881 *Rhus pistacina* Sap.: Engler, p. 416.

1930 *Rhus pistacina* Sap.: Calmet, p. 188.

Occurrence: Oligocene; S. France (Armissan).

Rhus pluriloba Boulay.

1887 *Rhus pluriloba* Boulay, p. 272.

1910 *Rhus pluriloba* Boul.: Lauby, p. 372.

Occurrence: Miocene; France (Charay, Ardèche).

Rhus powelliana Lesquereux.

1892 *Rhus powelliana* Lesquereux, p. 155, pl. LVI, figs. 4, 5.

1913 *Rhus powelliana* Lesq.: Stopes, p. 199.

Occurrence: Cretaceous (Dakota); U.S.A. (Kansas).

Rhus praeovata Chaney.

1927 *Rhus praeovata* Chaney, p. 126, pl. XV, figs. 8, 9.

Occurrence: Upper Oligocene; U.S.A. (Oregon).

[*Rhus primaeva* Massalongo.]

1859 *Rhus primaeva* Massalongo, p. 103.

1893 *Rhus primaeva* Mass.: Meschinelli & Squinabol, p. 347.

Remarks: Nomen nudum.

Occurrence: Oligocene; Italy (Chiavon).

Rhus prisca Ettingshausen.

1853 *Rhus prisca* Ettingshausen, p. 79, pl. XXVI, figs. 13—23.

1854 *Rhus prisca* Ett.: Ettingshausen, p. 812.

1856 *Rhus prisca* Ett.: Gaudin & La Harpe, p. 365.

1856 *Rhus prisca* Ett.: Kovats, p. 7.

1858 *Rhus prisca* Ett.: Ettingshausen, p. 539.

1859 *Rhus prisca* Ett.: Heer, p. 83, pl. CXXVII, figs. 10—12.

1861 *Rhus prisca* Ett.: Ettingshausen, p. 261.

1863a *Rhus prisca* Ett.: Saporta, p. 96.

1865 *Rhus prisca* Ett.: Saporta, p. 133.

1865a *Rhus prisca* Ett.: Saporta, p. 204.

1869 *Rhus prisca* Ett.: Ettingshausen, p. 50, pl. LI, fig. 11; LII, fig. 6.

1870 *Rhus prisca* Ett.: Württenberger, p. 577.

1874 *Rhus prisca* Ett.: Schimper, p. 274.

1880 *Rhus prisca* Ett.: Ettingshausen, p. 235.

1881 *Rhus prisca* Ett.: Engler, p. 415.

1883 *Rhus prisca* Ett.: Probst, p. 229.

1885 *Rhus prisca* Ett.: Engelhardt, p. 364, pl. XXIII, figs. 9—12.

1885 *Rhus prisca* Ett.: Ettingshausen, p. 25.

1888 *Rhus prisca* Ett.: Ettingshausen, p. 354, pl. IX, fig. 41.

1888 *Rhus prisca* Ett.: Schenk, p. 539, figs. 309², 3.

1891 *Rhus prisca* Ett.: Engelhardt, p. 38.

1900 *Rhus prisca* Ett.: Peola, p. 245.

1902a *Rhus prisca* Ett.: Engelhardt, p. 179, pl. XIV, figs. 13, 15, 16.

1902 *Rhus prisca* Ett.: Dreger, p. 97.

1910 *Rhus prisca* Ett.: Brabenec, p. 242, text-fig. 150 b.

1911 *Rhus prisca* Ett.: Engelhardt, p. 390, pl. XLII, figs. 26, 28.

1911 *Rhus prisca* Ett.: Kafka, p. 70.

1912 *Rhus prisca* Ett.: Engelhardt, p. 521, pl. I, figs. 12, 13.

1929 *Rhus prisca* Ett.: Scheid, p. 81, pl. XXVII, fig. 6.

1931 *Rhus prisca* Ett.: Kirchheimer, p. 116.

Occurrence: Eocene; England (Alum Bay)?, Oligocene and Miocene; Bohemia (Bilin Basin), Austria (Häring), Hungary (Erdőbénye, Tokay). Styria (Leoben, Schega, Stranitzen, Sotzka), Carniola (Sagor), Germany (Klettgau, Flörsheim, Lauterbach), France (St. Zacharie, Narbonne, Peyriac), Switzerland (Monod, Horw, Lausanne).

Rhus pseudo-meriani Lesquereux.

1878a *Rhus pseudo-meriani* Lesquereux, p. 293, pl. LVIII, fig. 11.

1913 *Rhus pseudo-meriani* Lesq.: Stopes, p. 199.

Remarks: We consider that this leaf-fragment, referred to *Quercus doljensis* Pilar by Knowlton (1898, p. 191; 1919, p. 525) bears little resemblance to the leaves figured by Ward (1886, pl. XXXVI, figs. 9, 10) as *Q. doljensis* and is even less comparable with the original figured by Pilar (1883, pl. VII, fig. 14).

Occurrence: Tertiary; U.S.A. (Wyoming).

[*Rhus pteleaefolia* Weber.]

1851 *Rhus pteleaefolia* Weber, p. 403 (nomen nudum).

1852 *Rhus pteleaefolia* Weber, p. 213, pl. XXIII, fig. 13.

1855 *Rhus pteleaefolia* Web.: Wessel & Weber, p. 156, pl. XXVIII, fig. 7.

1858 *Rhus pteleaefolia* Web.: Ludwig, p. 149, pl. XXX, fig. 4.

1859 *Rhus pteleaefolia* Web.: Massalongo, p. 104.

1860 *Rhus pteleaefolia* Web.: Ludwig, p. 140, pl. LIV, fig. 18.

1867 *Rhus pteleaefolia* „Wess & Web.“: Molon, p. 90.

1880 *Rhus pteleaefolia* Web.: Engelhardt, p. 113.

Remarks: Heer (1859, p. 64) transferred this species to *Dodonaea*. For further references under this name see Foss. Cat. pars 14, Sapindaceae, p. 32.

According to Ettingshausen (1868) the specimen figured by Ludwig (1860) belongs to *R. deleta*.

[*Rhus punctatum* Al. Braun.]

1845 *Rhus punctatum* Al. Braun, p. 172.

1845 *Rhus punctatum* A. Br.: Unger, p. 242.

1849 *Rhus punctatum* A. Br.: Brongniart, p. 122.

1850 *Rhus punctatum* A. Br.: Unger, p. 475.

1850 *Rhus punctatum* A. Br.: Bruckmann, p. 233.

1851 *Ulmus punctata* (A. Br.) Al. Braun in Stizenberger, p. 80.

1856 *Ulmus punctata* (A. Br.): Heer, p. 60, pl. LXXIX, fig. 23.

Remarks: Heer points out that this leaf cannot be a *Rhus*, in spite of some general resemblance.

Rhus pyrrhae Unger.

1845 *Rhus pyrrhae* Unger, p. 242.

1847 *Rhus pyrrhae* Ung.: Unger, p. 84, pl. XXII, fig. 1.

1850 *Rhus Pyrrhae* Ung.: Unger, p. 473.

1850 *Rhus pyrrhae* Ung.: Bruckmann, p. 233.

1851 *Rhus pyrrhae* Ung.: Stizenberger, p. 86.

- 1851 *Rhus pyrrhae* Ung.: Weber, p. 404.
 1852 *Rhus pyrrhae* Ung.: Weber, p. 214.
 1852 *Paullinia vivianica* Massalongo, p. 21, pl. VI, figs. 23, 24.
 1852 *Paullinia mareschiniana* Massalongo, p. 22, pl. VI, fig. 25.
 1853 *Rhus pyrrhae* Ung.: Heer, p. 147.
 1855 *Rhus pyrrhae* Ung.: Wessel & Weber, p. 156, pl. XXVIII, fig. 6.
 1859 *Rhus Pyrrhae* Ung.: Heer, pp. 84, 283, pl. CXXVI, figs. 20—28.
 1859 *Paullinia vivianica* Mass.: Massalongo, p. 94.
 1859 *Paullinia mareschiniana* Mass.: Massalongo, p. 95.
 1861 *Rhus Pyrrhae* Ung.: Ettingshausen, p. 262.
 1867 *Rhus pyrrhae* Ung.: Molon, p. 90.
 1867 *Rhus pyrrhae* Ung.: Stur, p. 183.
 1868a *Rhus Pyrrhae* Ung.: Heer, p. 175.
 1870 *Rhus pyrrhae* Ung.: Württenberger, p. 577.
 1874 *Rhus Pyrrhae* Ung.: Schimper, p. 273.
 1881 *Rhus Pyrrhae* Ung.: Engler, p. 414.
 1883 *Rhus pyrrhae* Ung.: Probst, p. 228.
 1884 *Rhus pyrrhae* Ung.: Engelhardt, p. 148.
 1885 *Rhus pyrrhae* Ung.: Engelhardt, p. 364, pl. XXIII, figs. 25, 27; XXIV, figs. 18, 19.
 1888 *Rhus Pyrrhae* Ung.: Schenk, p. 544, fig. 310^o.
 1892 *Rhus pyrrhae* Ung.: Keller, p. 114, pl. I, fig. 5.
 1892 *Rhus pyrrhae* Ung.: Engelhardt, p. 39.
 1893 *Paullinia vivianica* Mass.: Meschinelli & Squinabol, p. 359.
 1893 *Paullinia maraschiniana* Mass.: Meschinelli & Squinabol, p. 359.
 1893 *Rhus pyrrhae* Ung.: Engelhardt, p. 39.
 1898 *Rhus pyrrhae* Ung.: Engelhardt, p. 111.
 1900a *Rhus pyrrhae* Ung.: Peola, p. 52.
 1902 *Rhus pyrrhae* Ung.: Laurent, p. 198, pl. II, fig. 23.
 1902 *Rhus pyrrhae* Ung.: Engelhardt, p. 294, pl. III, fig. 24.
 1910 *Rhus Pyrrhae* Ung.: Brabenec, p. 239.
 1914 *Rhus pyrrhae* Ung.: Engelhardt, p. 309, pl. V, fig. 5.
 1916 *Rhus cf. pyrrhae* Ung.: Sangiorgi, p. 292, pl. XV, fig. 17.
 1921 *Rhus pyrrhae* Ung.: Principi, p. 91.
 1926 *Rhus pyrrhae* Ung.: Wilckens, p. 38.
 1926 *Rhus pyrrhae* Ung.: Principi, p. 68, pl. VI, fig. 23; VII, fig. 19; VIII, fig. 3.

Remarks: Compared with the living *R. aromatica* Ait. of N. America. *Paullinia maraschiniana* and *P. vivianica* were referred to *Rhus pyrrhae* by Principi (1926, p. 69), following a suggestion of Heer's (1859, p. 283, 1861, p. 95; Molon, 1867, p. 84, footnote).

Occurrence: Oligocene and Miocene; Baden (Oeningen), Germany (Hessen, Klettgau, Biberach), Rhineland, Bohemia, Switzerland (Eriz), Italy (Chiavon, Salcedo, Piemonte), France, Styria (Parschlug), Croatia (Radoboj), Galicia. Pliocene; Italy (Imola).

Rhus quercifolia Goeppert.

[Non *R. quercifolia* Steudel, 1821, Nom. ed. 1, p. 689
 (= *R. toxicodendron*)].

- 1855 *Rhus quercifolia* Goeppert, p. 37, pl. XXV, figs. 6—9.
 1855 *Rhus aegopodiifolia* Goeppert, p. 37, pl. XXV, fig. 10.
 1861 *Rhus quercifolia* Goepp.: Ettingshausen, p. 262.
 1861 *Rhus aegopodiifolia* Goepp.: Ettingshausen, p. 262.
 1870 *Rhus quercifolia* Goepp.: Engelhardt, p. 23, pl. V, fig. 19.
 1874 *Rhus quercifolia* Goepp.: Schimper, p. 273.
 1881 *Rhus quercifolia* Goepp.: Engler, p. 414.

- 1891a *Rhus quercifolia* Goep.: Engelhardt, p. 193, pl. XVIII, fig. 23.
 1908 *Rhus quercifolia* Goep.: Engelhardt & Kinkel, p. 267, pl. XXXIV, fig. 20.
 1910 *Rhus quercifolia* Goep.: Brabenec, p. 240.
 1914 *Rhus quercifolia* Goep.: Kryštofovich, p. 594, pl. fig. 11.
 1919 *Rhus quercifolia* Goep.: Kräusel, p. 171, pl. XV, fig. 8; XVI, fig. 17; XVII, fig. 1; XXV, fig. 3; XXVI, figs. 9, 15; text-fig. 18.
 1921 *Rhus quercifolia* Goep.: Kräusel, p. 410, pl. XIV, figs. 1, 2.
 Remarks: Schimper and others include *R. aegopodiifolia* in *R. quercifolia*.

Occurrence: Tertiary; Bohemia, Silesia (Kokoschutz, Schosnitz, Peruschen), S. Russia. Upper Pliocene; Germany (Klarbecken).

[*Rhus reddita* Saporta.]

Synonym of *Pistacia reddita* (Saporta), q. v.

Rhus redditiformis Berry.

- 1912 *Rhus redditiformis* Berry, p. 397, pl. XXXI, fig. 2.
 1922 *Rhus redditiformis* Berry: Berry, p. 169, pl. XXXVII, fig. 2.
 Remarks: Berry says that this species bears a striking resemblance to Saporta's *R. reddita* from Aix and was named accordingly.
 Occurrence: Cretaceous (Woodbine); U.S.A. (Texas).

Rhus retine Unger.

- 1850 *Rhus retine* Unger, p. 475.
 1860 *Rhus retine* Ung.: Unger, p. 43, pl. XX, fig. 10.
 1861 *Rhus retine* Ung.: Ettingshausen, p. 262.
 1874 *Rhus Retine* Ung.: Schimper, p. 276.
 1881 *Rhus Retine* Ung.: Engler, p. 415.
 1901 *Rhus Retine* Ung.: Squinabol, p. 51.
 Occurrence: Eocene; Italy (Novale). Miocene; Styria (Paraschlug).

[*Rhus rhadamanti* Unger.]

- 1845 *Rhus rhadamanti* Unger, p. 242.
 1847 *Rhus rhadamanti* Ung.: Unger, p. 88, pl. XXIII, fig. 1.
 1850 *Rhus Rhadamanti* Ung.: Unger, p. 173.
 1870a *Woodwardia Rhadamanti* (Unger) Ettingshausen, p. 870, pl. I, fig. 2.
 Remarks: Identified by Ettingshausen as a fern, and transferred to *Woodwardia*.
 Occurrence: Miocene; Croatia (Radoboj).

Rhus rhomboidalis Saporta.

- 1861 *Rhus rhomboidalis* Saporta, p. 148.
 1862b *Rhus rhomboidalis* Sap.: Saporta, p. 278, pl. XIII, fig. 3.
 1873 *Rhus rhomboidalis* Sap.: Saporta, p. 108, pl. XVI, figs. 2, 3.
 1874 *Rhus rhomboidalis* Sap.: Schimper, p. 270.
 1881 *Rhus rhomboidalis* Sap.: Engler, p. 414.
 1893 *Rhus rhomboidalis* Sap.: Saporta, p. XIV.
 Occurrence: Oligocene; France (Aix-en-Provence).

[*Rhus rosaefolia* Lesquereux.]

[Non *R. rosaefolia* Hoffmannsegg, 1826,
Verz. Pfl. Nachh. II, p. 199.]

1878a *Rhus rosaefolia* Lesquereux, p. 293, pl. XLII, figs. 7—9.

1883 *Rhus rosaefolia* Lesq.: Lesquereux, p. 196.

1895 *Rhus rosaefolia* Lesq.: Dawson, G. M., p. 231 B.

1908 *Rhus rosaefolia* Lesq.: Penhallow, pp. 85, 106.

Remarks: Referred to *Weinmannia dubiosa* by Cockerell (1908, p. 94).

Occurrence: Eocene; British Columbia. Miocene; U.S.A. (Colorado, Florissant).

Rhus rotundifolia Kirchner.

1898 *Rhus rotundifolia* Kirchner, p. 184, pl. XII, fig. 2.

Remarks: Referred to *Hydrangea ? florissantia* by Cockerell (1908a, p. 541).

Occurrence: Miocene; U.S.A. (Colorado, Florissant).

Rhus sagoriana Ettingshausen.

1877 *Rhus sagoriana* Ettingshausen, p. 200, pl. XVIII, figs. 1—5,
8—14, 16—19.

1881 *Rhus sagoriana* Ett.: Engler, p. 415.

1885 *Rhus sagoriana* Ett.: Ettingshausen, p. 25, pl. XXXII, fig. 10.

1903 *Rhus sagoriana* Ett.: Menzel, p. 17.

1910 *Rhus sagoriana* Ett.: Engelhardt, p. 159, pl. II, fig. 47.

1910a *Rhus sagoriana* Ett.: Engelhardt, p. 679, pl. II, figs. 9, 11, 17.

1911 *Rhus sagoriana* Ett.: Engelhardt, p. 390, pl. XLII, figs. 27, 30.

1911 *Rhus sagoriana* Ett.: Kafka, p. 42.

1912a *Rhus sagoriana* Ett.: Engelhardt, p. 624, pl. XXXIII, fig. 47.

1933 *Rhus sagoriana* Ett.: Gothan & Sapper, p. 22, pl. V, figs. 5, 6.

Occurrence: Oligocene and Miocene; Bohemia (Preschen), Bosnia, Germany (Flörsheim), Carniola (Sagor), Greece (Kumi, Euboea).

Rhus salicifolia Menzel.

[Non *R. salicifolia* Presl., 1844,

Bot. Bemerk., p. 42 (= *Anaphrenium abyssinicum*)].

1906 *Rhus salicifolia* Menzel, p. 87, pl. V, fig. 11.

Occurrence: ? Miocene; Germany (Zschipkau).

Rhus sambiensis Heer.

1869a *Rhus sambiensis* Heer, p. 47, pl. X, fig. 16.

1874 *Rhus sambiensis* Heer: Schimper, p. 277.

1881 *Rhus sambiensis* Heer: Engler, p. 415.

Occurrence: Miocene; Samland.

Rhus saportana Pilar.

1883 *Rhus saportana* Pilar, p. 114, pl. XIII, fig. 20; XV, figs. 6, 32.

1903 *Rhus saportana* Pilar: Menzel, p. 17.

- 1910 *Rhus Saportana* Pilar: Brabenec, p. 242.
 1911 *Rhus saportana* Pilar: Kafka, p. 62.
 1922 *Rhus saportana* Pilar: Engelhardt, p. 104, pl. XXXVI, fig. 14.
 Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt). Oligocene; Bohemia. Miocene; Croatia (Sused).

[*Rhus scheuchzeri* Al. Braun.]

- 1851 *Rhus scheuchzeri* Al. Braun MS.: Stizenberger, p. 86.
 1853 *Rhus scheuchzeri* Al. Br.: Heer, p. 147.
 Remarks: Transferred to *Fraxinus* by Heer (1859, p. 23, pl. CIV, fig. 11).
 Occurrence: Miocene; Baden (Oeningen).

Rhus stizenbergeri Heer.

- 1859 *Rhus Stizenbergeri* Heer, p. 84, pl. CXXXVII, figs. 1, 2.
 1861 *Rhus Stizenbergeri* Heer: Ettingshausen, p. 262.
 1874 *Rhus Stizenbergeri* Heer: Schimper, p. 272.
 1881 *Rhus Stizenbergeri* Heer: Engler, p. 414.
 1883 *Rhus stizenbergeri* Heer: Probst, p. 228.
 Occurrence: Miocene; Baden (Oeningen).

Rhus stygia Unger.

- 1845 *Rhus stygia* Unger, p. 242.
 1847 *Rhus stygia* Unger: Unger, p. 86, pl. XXII, figs. 3—5.
 1850 *Rhus stygia* Ung.: Unger, p. 473.
 [1851 *Rhus stygia* Ung.: Massalongo, p. 200.]
 1853 *Rhus stygia* Ung.: Ettingshausen, p. 79, pl. XXVI, figs. 40-42.
 1853 *Rhus stygia* Ung.: Heer, p. 147.
 1861 *Rhus stygia* Ung.: Ettingshausen, p. 261.
 1869 *Rhus stygia* Ung.: Unger, p. 149, pl. II, fig. 28.
 1874 *Rhus stygia* Ung.: Schimper, p. 275.
 1877 *Rhus stygia* Ung.: Ettingshausen, p. 200, pl. XVIII, figs. 6, 7.
 1881 *Rhus stygia* Ung.: Engler, p. 415.
 1898 *Rhus stygia* Ung.: Engelhardt, p. 111, pl. XI, fig. 3.
 1910 *Rhus stygia* Ung.: Brabenec, p. 239.
 1910 *Rhus stygia* Ung.: Engelhardt, p. 163, pl. III, fig. 20.
 1912 *Rhus stygia* Ung.: Engelhardt, p. 629, pl. XXXIV, fig. 20.
 1922 *Rhus stygia* Ung.: Pax, p. 312.

Remarks: The specimens described by Massalongo (1851) from Chiavon were afterwards transferred to *Juglans* (Visiani & Massalongo, 1858, p. 230).

Occurrence: Oligocene and Miocene; Bohemia, Croatia (Radoboj), Carniola (Sagor), Austria (Häring), Rhineland, Bosnia (Modra). Tertiary; Macedonia.

Rhus subrhomboidalis Lesquereux.

- 1883 *Rhus subrhomboidalis* Lesquereux, p. 195, pl. XL, figs. 16—19.
 Occurrence: Miocene; U.S.A. (Colorado, Florissant).

Rhus succedanea Linn.

- 1920 *Rhus succedanea* Linn.: Florin, p. 22, pl. III, fig. 13.
 Occurrence: Late Tertiary; Japan.

Rhus ternata Engelhardt.

1922 **Rhus ternata** Engelhardt, p. 104, pl. XXXVI, fig. 16.

Occurrence: Eocene; Germany (Hessen, Messel, nr. Darmstadt).

Rhus tenuifolia Ettingshausen.

1870 **Rhus tenuifolia** Ettingshausen, p. 90, pl. VI, fig. 6.

1874 **Rhus tenuifolia** Ett.: Schimper, p. 278.

1881 **Rhus tenuifolia** Ett.: Engler, p. 415.

1888 **Rhus tenuifolia** Ett.: Ettingshausen, p. 355.

Occurrence: Miocene; Styria (Leoben).

Rhus thomasi Heer.

1869a **Rhus thomasi** Heer, p. 46, pl. X, fig. 13.

1874 **Rhus thomasi** Heer: Schimper, p. 277.

Occurrence: Miocene; Baltic region (Kraxtepillen).

Rhus toxicodendroides Pilar.

1883 **Rhus toxicodendroides** Pilar, p. 115, pl. XIII, fig. 1.

Occurrence: Miocene; Croatia (Dolje).

Rhus trifolioides Lesquereux.

1883 **Rhus trifolioides** Lesquereux, p. 196.

1908 **Rhus trifolioides** Lesq.: Cockerell, p. 99.

1916 **Rhus ? trifolioides** Lesq.: Knowlton, p. 279.

Remarks: Knowlton evidently intended to figure the type specimen, but omitted to do so. A doubtful generic reference.

Occurrence: Miocene; U.S.A. (Colorado, Florissant).

Rhus triphylla Unger.

[Non **R. triphylla** Medicus, 1799, Pfl. Anat., p. 106.]

1848 **Rhus triphylla** Unger, p. 509.

1849 **Rhus triphylla** Ung.: Brongniart, p. 122.

1850 **Rhus triphylla** Ung.: Unger, p. 474.

1860 **Rhus triphylla** Ung.: Unger, p. 44, pl. XX, fig. 13.

1861 **Rhus triphylla** Ung.: Ettingshausen, p. 262.

1874 **Rhus triphylla** Ung.: Schimper, p. 271.

1881 **Rhus triphylla** Ung.: Engler, p. 414.

1885 **Rhus triphylla** Ung.: Engelhardt, p. 364, pl. XXIII, fig. 20.

1910 **Rhus triphylla** Ung.: Brabenec, p. 239.

Occurrence: Oligocene; Bohemia. Miocene; Styria (Parschlug).

Rhus typhinoides Lesquereux.

1878 **Rhus typhinoides** Lesquereux, p. 29, pl. IX, figs. 1—6.

1911 **Rhus typhinoides** Lesq.: Knowlton, p. 24.

1911a **Rhus typhinoides** Lesq.: Knowlton, p. 62.

1920 **Rhus typhinoides** Lesq.: Chaney, p. 177.

1926 **Rhus typhinoides** Lesq.: Knowlton, p. 45, pl. XXVII, fig. 5.

Occurrence: Oligocene; U.S.A. (Oregon). Miocene; U.S.A. (California, Washington).

[Rhus uddeni Lesquereux.]

1892 **Rhus uddeni** Lesquereux, p. 154, pl. LVII, fig. 2.

1895 **Rhus uddeni** Lesq.: Knowlton, p. 213.

1913 **Rhus uddeni** Lesq.: Stopes, p. 199.

1919 **Rhus uddeni** Lesq.: Knowlton, p. 553.

Remarks: Transferred by Berry to *Sapindopsis magnifolia* Fontaine. See Foss. Cat., pars 14, p. 49.

Occurrence: Cretaceous; U.S.A. (Kansas).

Rhus unitus Knowlton & Cockerell.

1868 **Rhus nervosa** Newberry, p. 53.

1874 **Rhus nervosa** Newb.: Schimper, p. 280.

1881 **Rhus nervosa** Newb.: Engler, p. 415.

1898 **Rhus** (?) **nervosa** Newb.: Newberry, p. 114, pl. XXXIII, figs. 5, 6.

1919 **Rhus unitus** Knowlton & Cockerell, p. 553.

Remarks: *Non R. nervosa* Ecklon & Zeyher, 1834.

Occurrence: Eocene; U.S.A. (Dakota).

Rhus variabilis (Newberry) Knowlton.

1898 **Planera variabilis** Newberry, p. 83, pl. LXVI, fig. 7 (only).

1923 **Rhus variabilis** (Newberry) Knowlton, p. 167.

1923 **Rhus myricoides** Knowlton, p. 168, figs. 10, 11 only (teste Brown, 1929).

1925 **Rhus variabilis** (Newb.): Cockerell, p. 4.

1929 **Rhus variabilis** (Newb.): Brown, p. 287.

Remarks: Knowlton states that the remaining figures of Newberry's *Planera variabilis* belong to *P. inaequilateralis*. Brown includes in *R. variabilis* two of Knowlton's figures of *R. myricoides*. Knowlton also says that *R. nigricans* is very similar. For additional references see Brown, 1934, p. 59.

Occurrence: Eocene (Green River); U.S.A. (Wyoming, Colorado).

[Rhus vexans Lesquereux.]

Synonym of **Schmaltzia vexans** (Lesq.), q. v.

Rhus viburnoides Knowlton.

1917 **Rhus** ? **viburnoides** Knowlton, p. 328, pl. XXVIII, fig. 5.

Occurrence: Tertiary (Baton); U.S.A. (Colorado).

Rhus westii Knowlton.

1892 **Rhus** ? **westii** Knowlton in Lesquereux, p. 154, pl. XXXVIII, figs. 9, 10.

1913 **Rhus westii** Knowl.: Stopes, p. 199.

Occurrence: Cretaceous; U.S.A. (Kansas).

Rhus winchellii Lesquereux.

1883 **Rhus winchellii** Lesquereux, p. 236.

Occurrence: Eocene; U.S.A. (S. Dakota).

[*Rhus xanthoxyloides* Massalongo.]

- 1859 *Rhus xanthoxyloides* Massalongo, p. 104.
 1893 *Rhus xanthoxyloides* Mass.: Meschinelli & Squinabol, p. 347.
 Remarks: Nomen nudum.
 Occurrence: Oligocene; Italy (Chiavon).

Rhus zanthoxyloides Unger.

- 1848 *Rhus zanthoxyloides* Unger, p. 509.
 1849 *Rhus zanthoxyloides* Ung.: Brongniart, p. 122.
 1850 *Rhus zanthoxyloides* Ung.: Unger, p. 474.
 1860 *Rhus zanthoxyloides* Ung.: Unger, p. 45, pl. XXI, fig. 13.
 1861 *Rhus zanthoxyloides* Ung.: Ettingshausen, p. 262.
 1869 *Rhus zanthoxyloides* Ung.: Unger, p. 149, pl. II, figs. 26, 27.
 1874 *Rhus zanthoxyloides* Ung.: Schimper, p. 276.
 1881 *Rhus zanthoxyloides* Ung.: Engler, p. 415.
 1883 *Rhus zanthoxyloides* Ung.: Pilar, p. 115, pl. XV, figs. 7, 20.
 Occurrence: Miocene; Styria (Parschlug), Croatia (Radoboj, Dolje, Nedelja).

Rhus sp.

- 1845 *Rhus*?: Al. Braun, p. 172.
 Occurrence: Miocene; Baden (Oeningen).
 1853 *Rhus* 2 spp.: Heer, p. 42.
 Occurrence: Tertiary; Germany (Breslau).
 1860 *Rhus*: Saporta, p. 512.
 Occurrence: Oligocene; France (Provence).
 Remarks: „Très voisin du *Cotinus*“.
 1878 *Rhus*?: Saporta, p. 49.
 Occurrence: Tertiary; France (Brives).
 1883 *Rhus* sp.: Dawson, p. 34.
 Remarks: Allied to *R. rosaeifolia* Lesq. according to Dawson.
 Occurrence: Cretaceous; British Columbia.
 1896 *Rhus* n. sp.: Lindgren & Knowlton, p. 890.
 Occurrence: ?Miocene; U.S.A. (S. Nevada).
 1897 *Rhus* sp.: Almera, p. 18.
 Occurrence: Pliocene; Barcelona.
 1897 *Rhus* (?) n. sp.: Stanton & Knowlton, p. 133.
 Occurrence: Eocene; U.S.A. (Wyoming).
 1898 *Rhus* sp.: Menzel, p. 17.
 Remarks: Fruit.
 Occurrence: Oligocene; Bohemia (Kundratitz).
 1899 *Rhus*: Laurent, p. 136, pl. XIV, fig. 9.
 Occurrence: Oligocene; France (Oélas).
 1888 *Rhus* ? sp.: Lesquereux, p. 15.
 1902 *Rhus* ? sp.: Knowlton, p. 70, pl. XIV, fig. 6.
 Occurrence: Miocene; U.S.A. (Oregon, John Day Basin).

- 1906 **Rhus** sp.: Menzel, p. 91, pl. IX, fig. 16.
Occurrence: ? Miocene; Germany (Rauno).
- 1910 **Rhus** sp.: Brabenec, p. 241.
Occurrence: Tertiary; Czechoslovakia (Kundratitz).
- 1910 **Rhus**: Laurent, p. 618.
Occurrence: Mio-Pliocene; Tonkin.
- 1914 **Rhus**: Knowlton, p. 36.
Occurrence: Eocene; U.S.A. (Oregon).
- 1920 **Rhus** sp.: Reid, E. M., p. 130.
Remarks: „Possibly an unripe fruit of *R. cotinoides*“.
Occurrence: Middle Pliocene; England (Castle Eden).
- 1924 **Rhus** sp.: Chaney, p. 131.
Occurrence: Miocene; U.S.A. (Oregon).
- 1930 **Rhus** sp.: Dorf, p. 100, pl. XII, fig. 4.
Occurrence: Pliocene; U.S.A. (California).
- 1888 **Rhus**: Gardner, p. 419 (footnote).
- 1926 **Dicotylophyllum** sp. 2: Reid & Chandler, p. 154, pl. X, figs. 13, 14.
Remarks: According to Reid & Chandler, this is certainly not a *Rhus*.
Occurrence: Oligocene (Bembridge Limestone); I. of Wight.

[cf. **Rhus**.]

- 1888 **Sapindiphyllum dubium** Nathorst, p. 212, pl. XXII, fig. 5.
Remarks: A dubious fragment, compared with various genera, including *Rhus*.
Occurrence: Miocene; Japan.

Schinopsis Engler.**Schinopsis patagonica** Berry.

- 1925a **Schinopsis patagonica** Berry, p. 206, pl. I, fig. 2.
Occurrence: Miocene; Patagonia.

Schinus Linnaeus.**Schinus deperditus** Saporta.

- 1863a **Schinus deperditus** Saporta, p. 25, pl. II, fig. 8.
- 1888 **Schinus deperditus** Sap.: Schenk, p. 541.
Remarks: Venation similar to that of *Anaphrenium*, but not comparable with *Schinus*, according to Schenk.
Occurrence: Tertiary; S. France (Gargas).

[**Schinus primaevum** Caspary.]Synonym of **Rhamnacinium primaevum**.

See Foss. Cat., pars 17, p. 69.

Schmaltzia Desveaux.**Schmaltzia vexans** (Lesquereux).

1883 *Rhus vexans* Lesquereux, p. 195, pl. XLI, fig. 20.

1906 *Schmaltzia vexans* (Lesq.): Cockerell, p. 12.

1929 *Schmaltzia vexans* (Lesq.): Brown, p. 288.

Occurrence: Eocene (Green River) and Miocene; U.S.A. (Colorado).

Semecarpites Fritel, 1913, p. 643.**Semecarpites linearifolius** Fritel.

1913 *Semecarpites linearifolius* Fritel, p. 643, pl. XXII, fig. 1; text-fig. 1.

Remarks: Leaf with form and venation strikingly similar to that of *Semecarpus anacardium* L. of the Indo-Malayan region.

Occurrence: Aquitanian; Manosque.

Spondiaecarpon Langeron, 1899, p. 453.**Spondiaecarpon dubium** Langeron.

1899 *Spondiaecarpon dubium* Langeron, p. 453, pl. III, figs. 2, 4.

1900 *Spondiaecarpon dubium* Lang.: Langeron, p. 370.

Remarks: Relationship doubtful. In the opinion of Reid & Chandler (1933, p. 299) the appearance of the fruit is unlike that of *Spondias*.

Occurrence: Eocene; France (Sézanne).

Spondiaecarpon turbinatum Menzel.

1913 *Spondiaecarpon turbinatum* Menzel, p. 6, pl. I, figs. 8—18.

Remarks: Accepted as anacardiaceous by Reid & Chandler (1933, p. 299).

Occurrence: Lower Miocene; Germany (Ville, nr. Cologne).

Spondias Linnaeus.**Spondias lutea** Linnaeus.

1934 *Spondias lutea* Linn.: Berry, p. 238, pl. XIV, figs. 1—6.

Occurrence: Pleistocene; Cuba.

Spondias mirifica Hollick & Berry.

1924 *Spondias mirifica* Hollick & Berry, p. 74, pl. VII, fig. 9.

Occurrence: Mio-Pliocene; Brazil (Bahia).

[Spondias prae-laurifolia Krasser.]

1903 *Spondias prae-laurifolia* Krasser, p. 858.

Remarks: Nomen nudum. MS. name of Ettingshausen.

Occurrence: Tertiary; Brazil (Ouriçanga).

Spondias sheppeyensis Reid & Chandler.

1933 **Spondias sheppeyensis** Reid & Chandler, p. 305, pl. XIII, figs. 32—34.

Remarks: Endocarp.

Occurrence: Eocene (London Clay); England (Sheppey).

Spondicarya Reid & Chandler, 1933, p. 306.**Spondicarya trilocularis** Reid & Chandler.

1933 **Spondicarya trilocularis** Reid & Chandler, p. 306, pl. XIII, figs. 35, 36.

Remarks: Endocarp, referable to the Spondiae.

Occurrence: Eocene (London Clay); England (Sheppey).

Spondiocrarpus Warburg, 1897, p. 229.**Spondiocrarpus verbeekii** Warburg.

1897 **Spondiocrarpus verbeekii** Warburg, p. 229, pl. IV, figs. 6—15.

1925 **Spondiocrarpus verbeekii** Warb.: Kräusel, p. 336.

1931 „**Spondiocrarpus**“ **Verbeekii** Warb.: Posthumus, p. 497.

Remarks: Fruits referred to Anacardiaceae.

Occurrence: Pliocene; Bangka.

Tapirira Aublet.**Tapirira lanceolata** Engelhardt.

1895a **Tapirira lanceolata** Engelhardt, p. 15, pl. IX, fig. 4.

1919 **Tapirira lanceolata** Engel.: Berry, p. 291, pl. XV, fig. 1.

1929b **Tapirira lanceolata** Engel.: Berry, pp. 90, 92, 93.

Remarks: Berry (1916, p. 186) considers this to be perhaps an *Engelhardtia*.

Occurrence: Miocene; S. America (Ecuador, Northern Peru).

Teschia C. & E. M. Reid, 1915, p. 108.**Teschia crassicarpa** C. & E. M. Reid.

1915 **Teschia crassicarpa** Reid, C. & E. M., p. 108, pl. X, figs. 22a, b.

Remarks: Fruit probably belonging to the section Rhoideae and perhaps near *Cotinus*.

Occurrence: Middle Pliocene; Holland (Swalmen).

Trilobium Saporta, 1861, p. 148.**Trilobium ungeri** Saporta.

1861 **Trilobium ungeri** Saporta, p. 148.

1862a **Trilobium ungeri** Sap.: Saporta, p. 279, pl. XIII, fig. 6.

1873 **Heterocalyx ungeri** (Sap.) Saporta, p. 111, pl. XVI, figs. 19—26.

1874 **Trilobium Unger** Sap.: Schimper, pp. 282, 704.

1881 **Trilobium Unger** Sap.: Engler, p. 416.

- 1883 *Heterocalyx ungeri* (Sap.): Pilar, p. 116, pl. XV, figs. 12, 13.
 1888 *Heterocalyx Unger* (Sap.): Ettingshausen, p. 356.
 1888 *Heterocalyx Unger* (Sap.): Schenk, p. 539, figs. 309¹⁰⁻¹²
 1899 *Heterocalyx ungeri* (Sap.): Laurent, p. 134, pl. XIV, fig. 6.
 1906 *Heterocalyx ungeri* (Sap.): Kerner, p. 69.

Remarks: The genus *Trilobium* was instituted for certain supposedly superior fruits with three persistent sepals and a slender stalk. Later, on finding specimens with more than three wings, Saporta substituted the name *Heterocalyx*, but the inappropriateness of the first name is not a sufficient reason for ignoring the rule of priority. Moreover both of Saporta's names would disappear if these fruits were eventually identified with some living genus. Saporta regarded them as belonging to an extinct genus of the Anacardiaceae allied to *Astronium*. Schimper (1874) thought that in spite of this resemblance the affinities of *Trilobium* were uncertain, and Engler (1881), while suggesting a comparison with *Parishia*, listed it as a doubtful member of the Anacardiaceae. More recently Reid & Chandler (1926, p. 138) have suggested that Saporta's fruits may belong to *Abelia* (Caprifoliaceae).

There are numerous records in Tertiary deposits of somewhat similar winged fruits. These have been referred to various genera and families, such as *Getonia* (= *Calycopteris*, Combretaceae), *Porana* (Convolvulaceae), *Tetrapteris* (Malpighiaceae) and *Diospyros* (Ebenaceae). Of these Saporta identified *Getonia petraeaeformis* Unger (1847, pl. XLVII, figs. 1—3) with *Trilobium ungeri*. Incidentally if this identification is correct, Unger's specific name would have priority. Schimper (1872, p. 913) renamed Unger's plant *Porana petraeaeformis* but in 1874 included it as a synonym of *T. ungeri* without referring to his previous action.

Heer (1861, p. 75) and Saporta (1873) consider that the fruits figured as *Elaphrium antiquum* by Unger (1860, pl. XXI, figs. 17—22) belong to *T. ungeri*, but the figures scarcely suggest identity; in fact, we are unable to detect the slightest resemblance.

In view of the confusion and uncertainty surrounding these fruits, we have only listed those which have actually been named *Trilobium* or *Heterocalyx* (and hence have been referred to the Anacardiaceae). The only really satisfactory identification is of the particularly well-preserved series of four species of *Abelia* from the Oligocene of Bembridge, which have been carefully worked out by Reid & Chandler (1926). Clearly it is impossible (especially in view of the known inaccuracy of many of the earlier figures of plant impressions) to decide on the affinities of the various Tertiary winged fruits under discussion without a re-examination of the actual material, and even then identification may not be possible. At the moment it seems likely that some may belong to *Abelia*, but there is no real evidence that any of them belong to the Anacardiaceae.

See also *Heterocalyx saportana* Berry.

Occurrence: Oligocene and Miocene, France (Aix-en-Provence, Célas), Croatia (Nedelja, Sused), Styria (Leoben), Dalmatia (Ruda).

Xylocarya Reid & Chandler, 1933, p. 311.

Xylocarya trilocularis Reid & Chandler.

- 1933 *Xylocarya trilocularis* Reid & Chandler, p. 312, pl. XIV, figs. 9—12.

Remarks: Endocarps, referable to the Spondiae.

Occurrence: Eocene (London Clay); England (Sheppey).

Summary of Genera

Genus	Number of described species	Synonyms, nomina nuda, unnamed and doubtful species
Anacardioxylon	3	1
Anacardites	27	6
Anacardium	3	—
Anaphrenium	2	—
Astronium	1	—
Buchanania	—	1
Carpolithus	—	4
Colombicarpum	1	—
Comocladia	—	1
Cotinus	3	—
Dracontomelon	2	—
Heterocalyx	—	1
Lobaticarpum	1	—
Mangifera	1	1
Metopium	1	1
Odina	3	—
Phyllites	—	9
Pistacia	17	4
Pseudosclerocarya	2	—
Pseudospondias	1	—
Rhodium	3	—
Rhoipites	1	—
Rhoophyllum	2	—
Rhus	126	57
Schinopsis	1	—
Schinus	1	1
Schmaltzia	1	—
Semecarpites	1	—
Spondiaecarpon	2	—
Spondias	2	1
Spondicarya	1	—
Spondiocarpus	1	—
Tapirira	1	—
Teschia	1	—
Trilobium	1	—
Xylocarya	1	—
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